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THEIR NAMES, CLASS, ORDER, GENERIC AND SPECIFIC CHARACTERS,

ACCORDING TO THE SYSTEM OF LINNÆUS;

Their Places of Growth, Times of Flowering, and most approved Methods of Culture.

CONDUCTED

By SAMUEL CURTIS, F. L. S.

THE DESCRIPTIONS

By SIR WILLIAM JACKSON HOOKER, K. H.

LL.D. F. R. A. and L. S. and Regius Professor of Botany in the University of Glasgow.

VOL. XII.

OF THE NEW SERIES;

Or Vol. LXV. of the whole Work.

Securely here the flowers unfold
Their painted leaves,—nor winter's cold
Nor summer's sun they fear;
From various soil and clime they come,
Monthly to renovate their bloom,
And flourish all the year.

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1839

SHOUT
SHARE
IT

TO THE

HON. & REV. WILLIAM HERBERT,

OF SPOFFORTH,

DISTINGUISHED

NO LESS AS A CULTIVATOR, THAN BY HIS VAST KNOWLEDGE

OF

THE AMARYLLIDACEÆ

AND OTHER ALLIED MONOCOTYLEDONOUS ORDERS,

MANY OF WHICH HAVE BEEN REPRESENTED IN THIS WORK,

ILLUSTRATED

BOTH BY HIS PENCIL AND PEN,

THE PRESENT VOLUME IS DEDICATED,

WITH SENTIMENTS OF GREAT REGARD

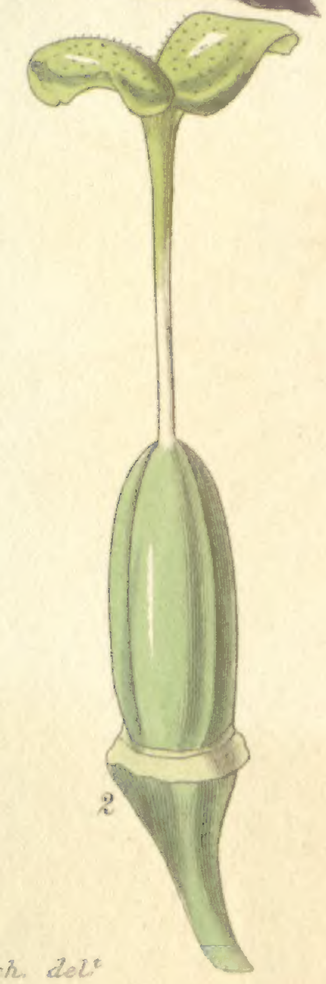
AND ESTEEM,

BY HIS FAITHFUL

AND OBEDIENT SERVANT,

W. J. HOOKER.

Glasgow, February 1, 1839.



W. Fitch. del.

Pub. by S. Curtis. Glazenwood Essex. Jan. 1838.

Swan Sc.

LISIANTHUS RUSSELLIANUS. DUKE OF BEDFORD'S LISIANTHUS.

****

Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—GENTIANEÆ.)

Generic Character.

Antheræ incumbentes, plerumque demum recurvæ. *Corolla* infundibuliformis, marcescens, 5-mera. *Stigmata* bilamellata. *Capsula* valvulis introflexis semi-4—2-locularis, vel sæpius complete bilocularis, placentis utrinque binis.

Specific Name and Character.

LISIANTHUS *Russellianus;* glaucus, foliis ovatis acutissimis 3—5-nerviis, floribus paniculatis, calycibus profunde partitis laciniis longissime subulatis, corolla (speciosissima) 5-partita campanulato-infundibuliformi, laciniis late obovatis patentibus.

LISIANTHUS glaucifolius. *Nutt. Fl. Ark. p.* 197. *(not Jacq.).*

Specimens and seeds of this plant were among the last of the many novelties that were sent home by the lamented DRUMMOND from San Félipe de Austin, Texas, in 1835. They were accompanied by the remark, "not excelled in beauty by any plant:" and truly one has only to see this species of LISIANTHUS in a flowering state, to be assured of the accuracy of the observation. It was shortly before the period of the arrival of these seeds and specimens, that His Grace the Duke of BEDFORD, with his wonted liberality, contributed a sum of money, which, had the receiver continued in health, would have materially assisted in forwarding his views in Florida, but which was no less available in a period of pain and sickness immediately preceding his lamented death in Cuba; and I am sure that in dedicating this splendid plant to so distinguished a patron of Science,

Science, I shall have the approbation of every Botanist and of every lover of Horticulture.

Although apparently an *annual* in the wild state, yet no specimen flowered till 1837, and then for the first time in the greenhouse at Bothwell Castle, under the skilful management of Mr. TURNBULL. It was there that the drawing here figured was made, in August of that year. Shortly after, its lovely blossoms were produced in the Glasgow Botanic Garden: and so long-lived were they, that we have remarked a single blossom continuing in great beauty for a period of three weeks. I think there can be no doubt but, under proper management, by forcing in the early spring, and planting out in the open border, this plant will there perfect its flowers as readily as the PHLOX *Drummondii*. In the Genus the species will rank near L. *glaucifolius*, JACQ., *Ic. Rar. t.* 33. (CHLORA *exaltata*, GRISEBR.) having, like it, glaucous leaves, a deeply divided corolla, and long subulate segments to the calyx, but readily distinguished by the vastly larger flowers, three to five-nerved (not single-ribbed) leaves, of which the upper ones are finely acuminated, and by the absence of a keel or wing to the calyx-segments. In the dried collection sent home by Mr. DRUMMOND, and distributed, this plant is numbered 177. I possess specimens gathered by M. BERENDIER, at Nouveau Leon, Monterey, Mexico; and by Mr. NUTTALL, from the Great Salt River, Arkansa.

DESCR. Annual. *Stem* one to two feet high, erect, rounded, simple, or throwing out a few opposite branches, and, as well as the foliage, glabrous and glaucous. *Leaves* opposite and connate, ovate or ovato-oblong, three to five-nerved, very acute, gradually becoming smaller upwards, and more acuminated, till they pass into the subulate bracteas at the base of the peduncles. *Flowers* large, handsome, borne in a terminal *panicle*. *Pedicels* elongated. *Calyx* deeply five-partite; the segments erect, from an ovate base, gradually lengthened into a long, subulate point. *Corolla* as large as a tulip! *Tube* short, *limb* of five, large, obovate, spreading segments: the colour a rich purple, with a very deep eye in the centre. *Filaments* scarcely longer than the tube: *Anthers* large, yellow. *Germen* oblong, equal in length with the *style*: *stigma* of two, very large, yellow-green, velvety spreading plates. Margins of the valves of the *capsule* much introflexed. *Seeds* minute, orbicular-reniform, deeply punctated, pale-brown.

Fig. 1. Stamen. 2. Pistil. 3. Section of the Germen:—*magnified.*

Pub. by S. Curtis, Glazenwood Esser, Jun. 1838.

Swan So.

ECHINOCACTUS TUBIFLORUS. TUBE-FLOWERED SPINE-CACTUS.

***

the stem, in the very much longer and stronger and *black* species, collected into fewer fascicles. The flower, as Mr. Mackie observes, is larger, the tube longer and slenderer, and clothed with much longer tufts of hairs. It is, in all probability, a native of the same country as E. *Eyriesii*, namely Mexico.

Descr. *Stem* subglobose, much depressed, umbilicated at the top, and deeply cut into about eleven very prominent, compressed, slightly undulated *angles*, which have five or six woolly *tubercles*, each giving rise to a fascicle of six to eight strong black *spines*, from half to nearly three quarters of an inch long. From one of these fascicles the *flower* springs, which is remarkably large in proportion to the size of the plant. The calycine tube is very long, a little enlarged upwards, brownish-green, scaly, each scale with a long tuft of slender, flaccid hairs. *Petals* spreading, white, oblong, much acuminated. *Stamens* numerous, included, white as well as the *style* and *stigmas*.

W. Fitch del.

Pub.by S. Curtis. Glazenwood Essex Jan.y 1.1838.

Swan Sc.

VERBENA INCISA. CUT-LEAVED MELINDRES.

****

Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—VERBENACEÆ.)

Generic Character.

Calyx 5-fidus, dente unico subbreviore. *Corollæ limbus* irregulariter 5-lobus. *Stamina* inclusa. *Utriculus* 4-spermus, cito rumpens, ut maturi fructus caryopses sistant. *Spr.*

Specific Name and Character.

VERBENA *incisa ;* pubescenti-hirsuta erecta suffruticosa ramosa, foliis petiolatis cordato-oblongis pinnatifido-lobatis grosse inciso-dentatis superioribus sublanceolatis sessilibus inciso-pinnatifidis, corymbis terminalibus planiusculis, floribus subsessilibus, calycibus cylindraceis 5-dentatis 5-costatis tubo corollæ $\frac{1}{3}$ brevioribus, limbi obliquo 5-lobis segmentis cuneatis bifidis.

This is another South American *Verbena* of the "Melindres" group, for the discovery of which we are indebted to Mr. TWEEDIE, who sent the seeds to G. F. DICKSON, Esq., of Everton, near Liverpool, by whom they were raised in 1836. Mr. SKIRVING, of the extensive nursery of Liverpool, transmitted the specimens now represented. Mr. TWEEDIE's specimens corresponding to the figure here given, are gathered at Santa Fée, in dry pastures in Porto Alegro Bay (Nos. 504 and 505), and on the shores of the Panama (No. 460). It flowered in the greenhouse, in July (1837), and is extremely handsome, the blossoms of a deep red rose-colour, with a yellow eye, and becoming paler in age. It will rank next to V. *Tweediana*, from which it differs in the broad and depressed (not spiked) corymbs, in the broader

leaves

leaves which are far more deeply lobed and cut in a pinnatifid manner. This will, in all probability, prove as hardy a species as V. *chamædrifolia*.

Descr. Whole plant pubescently hairy. *Stem*, in the individual from which our figure was taken, erect, but weak, between two to three feet high, branched. The *leaves below* cordato-oblong, petiolate, deeply lobed and cut, especially near the base; the upper ones sessile, inciso-pinnatifid, much narrower than the rest, and with longer and narrower segments. *Corymbs* terminal, of many nearly sessile *flowers*, presenting a nearly plane or slightly convex surface. *Calyx* cylindrical, slender, pale, with five dark-green angles or ribs, and as many very short, spreading teeth. *Corolla* with the *tube* slender, about one-third longer than the *calyx*, whitish; *limb* large, spreading, oblique, of five wedge-shaped and bifid lobes, rose-crimson on the upper side, very pale beneath, the eye yellow, the mouth closed with converging hairs.

Fig. 1. Flower. 2. Leaves from the lower part of the Stem.

M.rs Withers del.t

Pub.d by S. Curtis. Glazewood Essex Jan.y 1. 1832

MAXILLARIA AUREO-FULVA. GOLDEN-BROWN MAXILLARIA.

***

W. Fitch Del.t

Pub.d by S. Curtis, Glazenwood Essex. Jan.y 1.1838.

TWEEDIA VERSICOLOR. CHANGEABLE-FLOWERED TWEEDIA.

Class and Order.

PENTANDRIA DIGYNIA.

(Nat. Ord.—ASCLEPIADEÆ.)

Generic Character.

Calyx 5-partitus. *Corolla* campanulata, fauce coronata. squamis 5 carnosis retusis vel bifidis, exsertis, sinubus oppositis. *Corona staminea* nulla. *Antheræ* membrana terminatæ. *Massæ pollinis* ventricosæ, apice attenuato affixæ, pendulæ. *Stigma* elongato-acuminatum, bipartitum.—Suffrutices *volubiles*. Folia *opposita membranacea*. Umbellæ *axillares*. Flores *majusculi*.

Specific Name and Character.

TWEEDIA* *versicolor*; pubescenti-tomentosa, foliis brevi-petiolatis oblongo-hastatis, pedunculis umbellatis 3—4 floris, corollæ laciniis obtusis, squamis corollinis ligulatis apice recurvis crenatis, antheris erecto-appressis, stigmate bifido squamis corollinis vix longiore.

A most highly interesting Asclepiadeous plant, for which I am indebted to Mr. NIVEN, the excellent Curator of the Glasnevin Botanic Garden, in which Establishment it flowered in July, 1837, and whence the specimen here represented was sent, accompanied by a beautiful figure. It was discovered by Mr. TWEEDIE, probably in Tucuman, (though the locality is not mentioned,) and communicated to Mr. NIVEN with the name of ASCLEPIAS *Asedra*. Its large flowers.

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* So named in compliment to Mr. JAMES TWEEDIE, an intelligent and indefatigable collector of plants in Buenos Ayres, Tucuman, S. Brazil, &c.

ers, of a singularly changeable blue colour, with exserted scales from the tube, remind one rather of a Boragineous than an Asclepiadeous plant. In Genus it borders upon Oxypetalum and Tweedia; and I think it may safely be referred to the latter.

Descr. *Stems* twining, herbaceous, and, as well as the *foliage, peduncles, calyx,* and even in a degree, the outside of the *corolla,* clothed with fine woolly down. *Leaves* opposite, on short *petioles,* oblong, between cordate and hastate at the base. *Peduncles* axillary, from one of the two opposite leaves, bearing an umbel of three to four *flowers.* *Calyx* deeply cut into five, erect, lanceolate segments. *Corolla* between rotate and salver-shaped, having a conspicuous, almost globose *tube,* and five spreading, oblong, very obtuse segments; when first open, pale-blue, with a slight tinge of green, then purplish, and when withered, lilac. Within the *corolla* are five erect, deeper blue, fleshy *scales,* exserted, their apices recurved, emarginate. *Stamens* combined into a *tube,* erect, appressed to the base of the white pyramidal *stigma,* which is cleft into two closely-placed segments. *Pollen-masses* pendent from a triangular, membranous appendage, on each side the base of which is a linear-oblong, black, shining spine. *Pistils* two.

Fig. 1. Section of the Calyx with the Pistils. 2. Section of the Tube of the Corolla, showing the Scales, Staminal Column, and Stigma. 3. Inside view of an Anther, separated from the rest, showing its two Cells. 4. Pollen-masses:—*magnified.*

W.^m Withers del.^t

Pub. by S. Curtis Glazenwood Essex Jan.^y 1 1838.

EPIDENDRUM PAPILLOSUM. WARTY-FRUITED EPIDENDRUM.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Sepala patentia, subæqualia. *Petala* sepalis æqualia, v. angustiora, rarius latiora, patentia v. reflexa. *Labellum* cum marginibus columnæ omnino v. parte connatum, limbo integro v. diviso, disco sæpius calloso, costato v. tuberculato ; nunc in calcar productum ovario accretum et cuniculum formans. *Columna* elongata ; clinandrio marginato, sæpe fimbriato. *Anthera* carnosa, 2—4-locularis. *Pollinia* 4, *caudiculis* totidem replicatis annexa.—Herbæ *(Americanæ) epiphytæ, caule nunc apice v. basi pseudo-bulboso, nunc elongato, apice folioso.* Folia *carnosa, rarissime venis elevatis striata.* Flores *spicati, racemosi, corymbosi, v. paniculati, terminales v. laterales. Lindl.*

Specific Character and Synonym.

EPIDENDRUM *papillosum ;* pseudo-bulbis ovatis vel subturbinatis membranulis glaucescentibus tectis 2—3 phyllis ; foliis strictis carinatis acutis scapo simplici multifloro subæqualibus, sepalis obovato-lanceolatis acutiusculis petalisque minoribus subspathulatis acutis ; labello semilibero 3-partito, laciniis lateralibus divaricatis obovatis, intermedio 3-plo majore obscure quadrilobo versus basin calloso : columna bidentata ovario pedicelloque papillosis. *Bateman.*

EPIDENDRUM papillosum. *Bateman, MSS. Lindl. Bot. Reg. sine Ic.*

Another of the many interesting discoveries of Mr. SKINNER, which has enriched the collection of Mr. BATEMAN, at Knypersley Hall, where the specimen here figured, drawn

drawn by the skilful pencil of Mrs. Withers, was raised in June of last year. It is a very distinct species, and of easy culture.

Descr. The *pseudo-bulb*, in this specimen, was broadly ovate, furrowed longitudinally and transversely, so as to be marked with oblong convex areolæ; the whole dark-green, but covered with a delicate semi-transparent, silvery pellicle, and crowned with two or three erect, but slightly recurved, carinated and acuminated, dark-green, obscurely striated, coriaceous *leaves*. *Scape*, from the centre of these leaves, a foot long, slender, erect, bearing a terminal *raceme* of eight or ten, rather distant, handsome *flowers*. *Sepals* and *petals* almost spathulate, spreading, yellowish-green, the two latter rather smaller. *Column* club-shaped, tipped with orange. *Lip* deeply three-lobed, white, with three deep pink streaks, the two lateral lobes obovate, standing out at right angles from the middle lobe, which is large, plaited, obscurely four-lobed.

W. Fitch Del.t

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Swan Sc.

LOASA LATERITIA. RED-FLOWERED LOASA.

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Class and Order.

POLYADELPHIA POLYANDRIA.

(Nat. Ord.—LOASEÆ.)

Generic Character.

Calycis tubus ovario adhærens, *limbus* persistens 5-partitus æqualis. *Petala* 5 lobis calyci alterna breviter unguiculata concava. *Squamæ* 5 petaloideæ petalis alternæ biaut trilobæ in comum conniventes et basi intus filamentis 2 sterilibus instructæ. *Stamina* ∞, exteriora 10 sterilia, cætera in phalanges 15—17-andras petalis oppositas disposita, *antheris* erectis bilocularibus. *Stylus* apice trifidus. *Capsula* turbinato-oblonga, 1-locularis, apice 3-valvis calyce coronata, valvis margine placentiferis, placentis ideo cum vicina continuis. *Semina* ovalia creberrima reticulata.—Herbæ *ramosæ plerumque piloso-prurientes interdum scandentes*. Folia *alterna aut opposita, dentata aut lobata*. Pedunculi *oppositifolii axillares aut terminales* 1-*flori*. Petala *flava, rarissime alba*. *D C.*

Specific Name and Character.

LOASA *lateritia ;* longissime scandens pungenti-hispida, foliis pinnatis pinnis pinnatifidis laciniis inciso-pinnatifidis, petalis basi latioribus vix unguiculatis, squamis nectariferis apicibus conniventibus 5-appendiculatis, appendicibus 2 interioribus subulatis longissimis, exterioribus 3 squamiformibus brevibus.

This singular and truly beautiful species of LOASA was discovered in Tucuman, by Mr. TWEEDIE, and dried specimens have been sent by him to me and others (marked *n.* 1195), and seeds to the Glasgow Botanic Garden. From these latter, plants were raised by Mr. MURRAY, in 1836, which survived in the hothouse through the winter, climbing

ing to the uppermost light; and they produced their bright orange-red blossoms in the month of May,* 1837. In its native country, according to Mr. Tweedie, it is annual: with us, probably from having been sown so late in the season, it is certainly biennial. There is every reason to believe that either by seeds or cuttings this fine species may be perpetuated.

Descr. Hispid and stinging, more especially the *stem*. *Stems* ten to twenty feet long, slender, climbing. *Leaves* petiolate, opposite, pinnate, especially the lower ones, with from five to several pinnæ, which are ovato-lanceolate inciso-pinnatifid and serrated; the upper *leaves* (here represented) are bipinnatifid, and much shorter than the lower ones. *Peduncles* very long, axillary, single-flowered. *Germen* inferior, cylindrical, hispid, spirally twisted. *Calycine leaves* linear-subpinnatifid, spreading. *Petals* five, large, externally hispid, cucullate, and compressed laterally, broad at the base, and scarcely unguiculate. *Stamens* in five bundles, lodged in the hollow of the petals, from which they rise up at intervals to fertilize the stigma. *Anthers* pale reddish-yellow. *Nectariferous scales* five, downy, yellow-green, alternating with the bundles of stamens, cucullate, bearing each three *outer* short, dark purple segments, and two long, subulate *inner* ones, which curve gracefully, all meeting over the top of the stigma. *Germen* compressed, obtusely five-lobed. *Style* somewhat subulate. *Stigma* a mere point. *Fruit* two to three inches long, cylindrical, bursting in five, spirally twisted valves.

Fig. 1. Anther. 2. Pistil. 3. Inner view of a nectariferous Scale. 4. Side view of the same:—*magnified.* 5. Fruit:—*nat. size.*

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* Since the above was written, plants which have been put in the open border, and trained against a wall, have flowered in the highest perfection, and produced fruit abundantly; not suffering from the frosts till the month of November had set in.

W. Fitch del.t

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Carica citriformis. Small Citron-fruited Papaw.

****

Class and Order.

Diœcia (rather Monœcia) Decandria.

(Nat. Ord.—Caricæ.)

Generic Character.

Calyx (minutus) 5-dentatus. Masc. *Corolla* infundibuliformis. *Stamina* alterna breviora. Fœm. *Corolla* profunde 5-partita. *Stigmata* 5. *Pepo* polyspermus. *Semina* membrana obvoluta. *Spr.*

Specific Character and Synonyms.

Carica *citriformis* ; foliis cordatis 3—5-lobis lobis oblongis acuminatis medio trifidis nervis superne glandulosis, pedunculis axillaribus brevissimis, fructibus ovalibus lævissimis aurantiacis.

Carica citriformis. *"Jacq. fil." (ex Spreng.) Spreng. Syst. Veget. v. 3. p.* 905.

As far as can be judged from the brief character (and I know of no other) of Carica *citriformis*, given in Sprengel, the present plant may be safely referred to it: and it is a native of Guiana. A specimen, with the charming fruit here represented, was communicated from the stove of Charles Horsfall, Esq., Liverpool, in 1835. That gentleman procured it from the Curator of the Botanic Garden of Rotterdam, as the C. *monoica* of Desfontaines: but that species, as may be seen by the figure in the Ann. du Mus. d'Hist. Nat. v. 1. t. 18, is the same as the C. *microcarpa* of the Hort. Schœnbr., and is easily distinguished by its small, deeply sulcated, and pointed fruit. Seeds from the fruit above-mentioned were raised in the Botanic Gardens of

Glasgow

Glasgow and at Woburn, and so rapidly does the plant come to perfection, that it bore flower and fruit the first year.

Descr. *Stem* erect, three to five feet high, unbranched, woody below, herbaceous and succulent above, rounded. *Leaves* only from the upper part of the stem, on long rounded *petioles*, cordate, irregularly three- to five-lobed in a palmated manner, the lobes broadly oblong-acuminate, the middle lobe frequently trifid. On the nerves of the older leaves are scattered small, globose, white *glands*, sometimes in clusters. *Flowers* yellowish-white, in short *panicles* or *clusters*, from the axils of the leaves, much shorter than the leaf-stalks, monœcious? *Male flowers*, which alone have come under my observation, about an inch long. *Calyx* obsolete. *Corolla* with the *tube* long: the five oblong segments spreading. *Pistil* small, abortive. Stamens ten, in two rows, near the mouth of the tube. *Filaments* short, broader upwards; *anther-cells* applied to the inner face of the filament below the point. *Fruit* about the size of a hen's egg, and nearly of the same shape, but more inclining to oval, baccate, bright orange, containing several dark-brown *seeds*, muricated with large blunt spines. *Embryo* in a white waxy *albumen*.

Fig. 1. Male Flower laid open. 2. 2. Stamens. 3. Fruit, and 4, Dissection of ditto, and 5, Seed (all *nat. size*). 6. Seed, *magnified*. 7. Albumen. 8. Albumen cut open, showing the Embryo. 9. Embryo:—*magnified*.

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MAMMILLARIA LEHMANNI. LEHMANN'S MAMMILLARIA.

****

Class and Order.

ICOSANDRIA MONOGYNIA.

(Nat. Ord.—CACTEÆ.)

Generic Character.

Calycis tubus ovario adhærens ; lobi 5—6 colorati fructum juniorem coronantes. *Petala* 5—6 à calyce vix distincta eo longiora et cum sepalis in tubum concreta. *Stamina* filiformia pluriserialia. *Stylus* filiformis. *Stigma* 5—7-fidum radiatum. *Bacca* lævis. *Semina* nidulantia. *Cotyledones* nullæ. (ex *Nutt.*)—Suffrutices *carnosi subrotundi aut subcylindracei axi ligneo destituti, (an in omnibus ?) lactescentes, aphylli, tuberculis subconicis mammæformibus spiraliter dispositis confertis apice spinulas radiantes et tomentum demum deciduum gerentibus obtecti.* Flores *inter bases mammillarum sessiles, sæpius in zonam transversam dispositi.* Bacca *oborata, edulis, calyce marcescente demum deciduo coronata.* Tubercula *caulis simulant folia* Mesembryanthemorum barbatorum, *et forte sunt vera folia plantæ.*

Specific Character and Synonyms.

MAMMILLARIA *Lehmanni ;* oblonga subcylindrica, mammillis magnis conicis angulatis subtetragonis in axillis glandulosis resiniferis, apicibus fasciculatim aculeatis, aculeis 7—8 rectis gracilibus unico longiore, floribus terminalibus, petalis lineari-oblongis acuminatis stramineis.

MAMMILLARIA Lehmanni. *Hort. Berol.—Pfeiff. En. Cact. p.* 23.

M. octacantha et leucacantha. *D C. Rev. p.* 113. *Mem. p.* 11 ? *(ex Pfeiffer.).*

From the rich collection of CACTEÆ, formerly Mr. HITCHIN'S, now in the possession of Messrs. MACKIE, who obligingly

ingly communicated the drawing here figured. Its native country is Mexico. Mr. F. Mackie observes, that it is "a very distinct and remarkable species, bearing dark points in the axils of the mammillæ, which in hot weather exude a dark-coloured viscid matter, which I have not observed in any other species."

Descr. *Stem*, in the specimen here figured, about six inches high, oblong and cylindrical, covered all over with large, conical mammillæ, three-quarters of an inch long, angled with about four sides, and tipped with a minute woolly tuft, from which springs a fascicle of seven or eight slender *spines*, mostly three or four lines in length, but one of them is twice as long as the rest. *Flowers* moderately large, terminal. *Calycine tube* short. *Petals* numerous, imbricated, spreading, linear-oblong, of a delicate straw-colour. *Stamens* and *style* included. *Filaments* red. *Anthers* and *stigmas* yellow.

PASSIFLORA NIGELLIFLORA. NIGELLA-FLOWERED PASSION-FLOWER.

****

Class and Order.

MONADELPHIA PENTANDRIA.

(Nat. Ord.—PASSIFLOREÆ.)

Generic Character.

Calyx 10-partitus, laciniis interioribus corollinis. *Corona* radiata perigyna. *Nectarium* in fundo calycis. *Tubus staminifer* stylum cingens. *Stigmata* 3, clavata. *Pepo* 1-locularis, placentatio parietalis. *Spr.*

Specific Character and Synonym.

PASSIFLORA *nigelliflora;* sericeo-pilosa, foliis cordatis 5-lobis argute serratis, involucris setaceo-multifidis apice glandulosis.

PASSIFLORA nigelliflora. *Tweedie Pl. Exsicc. (n.* 1170.)

Plentiful at St. Jago de Estero, on the Rio Dulce, where it was discovered in 1835, by Mr. TWEEDIE, when on his way from Mendoza to Tucuman. It will be at once seen, that it is nearly allied to P. *gossypiifolia*, P. *hibiscifolia*, *fœtida*, and *ciliata*, four species which indeed have a near affinity to each other: but the present may at all times be distinguished by its truly cordate leaves, which are five-lobed) except in the upper part of the stem), and strongly serrated. The dried specimens which accompanied the seeds, have the same character in the foliage as the cultivated ones. It flowered in the Glasgow Garden in September, and seems to re-quire the heat of the stove.

DESCR. *Stem* climbing to the height of several feet, clothed with soft spreading hairs, as are the petioles. *Leaves* yielding a fetid smell when bruised, exactly cordate in their circumscription, five-lobed, hairy, or almost silky on both sides,

sides, the margin distinctly serrated: on the underside and at the margin, there are numerous hairs, tipped with unctuous glands. *Stipules* capillaceo-multifid, the segments terminated by a gland. *Tendrils* hairy. *Involucre* placed close beneath the calyx, of three leaves, which are pinnatifid, with numerous slender, capillary segments, each tipped with a gland at the extremity. *Calyx* with a very short *tube*, above which is a constriction, and a depression underneath: *segments* five, spreading, oblong, pale-green without, white within. *Petals* of the same shape, white. *Filaments* of the nectary elongated, waved, white, bluish at the tip: in the centre of these is a double circular disk, the *outer* thick and fleshy, the *inner* thin and almost membranous; these immediately surround the base of the staminal tube. *Germen* globose, hairy: *Style* slightly hairy: *stigma* subglobose.

W. Fitch Del.t

Pub. by S. Curtis. Glazenwood Essex. Feb.y 1. 1838.

Passiflora Tucumanensis. Large-stipuled Passion-Flower.

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Class and Order.

Monadelphia Pentandria.

(Nat. Ord.—Passifloreæ.)

Generic Character.

Calyx 10-partitus, laciniis interioribus corollinis. *Corona* radiata perigyna. *Nectarium* in fundo calycis. *Tubus* staminifer stylum cingens. *Stigmata* 3, clavata. *Pepo* 1-locularis, placentatio parietalis. *Spr.*

Specific Name and Character.

Passiflora *Tucumanensis ;* glaberrima scandens cirrhifera, foliis lato-cordatis petiolatis alte trilobis, lobis oblongis inferne glanduloso-serratis subtus glaucis, stipulis magnis semicordatis grosse serratis, pedunculis unifloris 3-bracteatis, bracteis calycem fere æquantibus laxis cordatis serratis, corona filamentosa duplici, int. brevissima, ext. petalorum longitudine.

This new species of *Passion-flower* was discovered by Mr. Tweedie, at St. Jago and Tucuman, at the eastern foot of the Cordillera of Chili, inhabiting, though rarely, the woods. It is a free grower, and flowered copiously the second year in the stove of the Glasgow Botanic Garden, in the month of July. It is *n.* 1173 of Mr. Tweedie's collections sent in 1836.

Descr. *Plant* everywhere glabrous. *Stems* long and twining. *Leaves* copious, dark-green above, pale and glaucous beneath, broadly cordate, deeply three-lobed, the lobes spreading, oblong, sometimes approaching to ovate or lanceolate, entire except at the base, where they are glanduloso-serrate. *Petioles* shorter than the leaf, rounded, naked,

naked, or sometimes with one or two fibrous glands. *Stipules* very large, leafy, an inch and more long, waved, reticulated, especially beneath, coarsely serrated. *Cirrhi* long, simple. *Peduncles* solitary, single-flowered, bearing beneath the flower three alternate, ovato-cordate, waved *bracteas*, almost as long as the flower. *Flower* about two inches in diameter. *Calyx* white within, of five oblongo-lanceolate segments, with a long soft green mucro beneath the apex. *Petals* five, of the same shape as the calycine segments, white. *Nectary* double; *inner* of numerous, short, erect, white filaments, tipped with blue, and woolly at their base; *outer* of numerous, spreading filaments, nearly as long as the corolla, white, barred with purplish blue. *Column* short. *Stigmas* club-shaped, recurved.

EPIDENDRUM FLORIBUNDUM. MANY-FLOWERED EPIDENDRUM.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Sepala patentia, subæqualia. *Petala* sepalis æqualia, v. angustiora, rarius latiora, patentia v. reflexa. *Labellum* cum marginibus columnæ omnino v. parte connatum, limbo integro v. diviso, disco sæpius calloso, costato v. tuberculato; nunc in calcar productum ovario accretum et cuniculum formans. *Columna* elongata; clinandrio marginato, sæpe fimbriato. *Anthera* carnosa, 2—4-locularis. *Pollinia* 4, *caudiculis* totidem replicatis annexa.—Herbæ *(Americanæ) epiphytæ, caule nunc apice v. basi pseudo-bulboso, nunc elongato, apice folioso.* Folia *carnosa, rarissime venis elevatis striata.* Flores *spicati, racemosi, corymbosi v. paniculati, terminales v. laterales. Lindl.*

Specific Character and Synonyms.

EPIDENDRUM *floribundum;* caule folioso, foliis lanceolato-oblongis acuminatis submembranaceis, panicula terminali, sepalis reflexis lanceolatis, petalis filiformibus, labelli quadrilobi basi bituberculati lobis lateralibus subrotundis, terminalibus linearibus divaricatis. *Lindl.*

EPIDENDRUM floribundum. *Humb. et Kunth, Nov. Gen. et Sp. v.* 1. *p.* 353. *t.* 86. *Lindl. Gen. et Sp. Orchid. p.* 109.

Kindly communicated by JAMES BATEMAN, Esq., who observes, that "the figure was taken from a specimen in Messrs. LODDIGES' Collection, by whom it was imported some years ago from Mexico. The flowers of their plant were considerably

siderably larger than those of some wild specimens, gathered on the Amazon River, by Dr. Pœppig, and now (thanks to his liberality) in my possession. The species continues a long time in flower, and has a particularly neat and pleasing appearance." Humboldt found it in woods near St. Jean de Bracamoros and the Amazon River. This plant has also been gathered by Mr. Henchman, in Demerara, in 1834, and a noble specimen flowered by Messrs. Lowe, in the rich stoves of the Clapton Nursery, was kindly communicated to us in November, 1837.

Descr. *Pseudo-bulbs* none. *Stem* about a foot high, erect, round, leafy. *Leaves* lanceolate, acuminate, somewhat flaccid and membranaceous, often reflexed. *Panicle* terminal, of three to four long, spreading and reflexed branches, bearing numerous *flowers*, each on a long *pedicel*. *Sepals* greenish-brown, reflexed, spathulate. *Petals* white, filiform, very slender, spreading. *Column* elongated, green at the base, white above. *Lip* white, with a curved line of red dots, bituberculate, deeply four-lobed; the two side lobes rounded; intermediate ones spreading, linear.

J. & B. S. Curtis, Clarence Street, Penton.

EPIDENDRUM TESSELATUM. CHEQUER-FLOWERED EPIDENDRUM.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Sepala patentia, subæqualia. *Petala* sepalis æqualia v. angustiora, rarius latiora, patentia v. reflexa. *Labellum* cum marginibus columnæ omnino v. parte connatum, limbo integro v. diviso, disco sæpius calloso, costato v. tuberculato; nunc in calcar productum ovario accretum et cuniculum formans. *Columna* elongata; clinandrio marginato, sæpe fimbriato. *Anthera* carnosa, 2—4-locularis. *Pollinia* 4, *caudiculis* totidem replicatis annexa.—Herbæ *(Americanæ) epiphytæ, caule nunc apice v. basi pseudo-bulboso, nunc elongato, apice folioso.* Folia *carnosa, rarissime venis elevatis striata.* Flores *spicati, racemosi, corymbosi v. paniculati, terminales v. laterales. Lindl.*

Specific Name and Character.

EPIDENDRUM *tesselatum;* pseudo-bulbis ovalibus compressis 2—3-phyllis, foliis lineari-lanceolatis scapo simplici multifloro paulo brevioribus, floribus subpatentibus, sepalis lanceolatis mucronatis petalisque minoribus subspathulatis acutis, labelli liberi trilobi lobis lateralibus rotundatis, intermedio majore oblongo cucullato, venis tribus parallelis cristigeris munito. *Bateman.*

A native of Guatemala, and sent to Knypersley, in 1836, by Mr. SKINNER, where the drawing, from which the accompanying figure was taken, was made by Mrs. WITHERS.

"My invaluable friend, G. U. SKINNER, Esq., who has, I believe, already discovered a larger number of new ORCHI-

DACEÆ

DACEÆ than any other individual whatsoever, first detected this species, which flowers here in June and July."

DESCR. "The *sepals* and *petals* are greenish-yellow outside, and brown inside, with darker streaks of the same colour, which give them a tessellated appearance. *Lip* beautifully veined throughout its whole length with numerous purple streaks." (*Bateman in litt.*).

W. Fitch Del.ᵗ

Pub.ᵈ by S. Curtis, Glazenwood Essex Feb.ʸ 1. 1838.

Erica florida; *var.* campanulata. Drooping Round-headed Heath. Bell-flowered *var.*

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Class and Order.

Octandria Monogynia.

(Nat. Ord.—Ericeæ.)

Generic Character.

Calyx 4-sepalus inferus. *Corolla* 4-fida. *Stamina* receptaculo inserta. *Antheræ* bifidæ. *Capsula* 4-locularis.

Specific Character and Synonyms.

Erica *florida*; foliis linearibus pilosis, floribus terminalibus umbellatis glabris, calycibus reflexis, staminibus inclusis. *Spr.*

Erica florida. *Willd. Sp. Pl. v. 2. p. 357. Thunb. Eric. n. 64. t. 6. Salisb. in Linn. Soc. Trans. v. 6. p. 377. Ait. Hort. Kew. v. 2. p. 406. Spreng. Syst. Veg. v. 2. p. 191.*

Var. *campanulata*; ramis strictioribus, foliis longioribus glabris, calycibus acutis bracteisque imbricatis, corolla lato-campanulata, stylo exserto. (Tab. nostr. 3639).

This very charming Heath was communicated from the choice collection at Bothwell Castle, in May, 1837, having been raised from seeds of E. *florida*, by the very intelligent gardener, Mr. Turnbull, in May, 1835. The plant is thus only two years old, and in size, for it is now two and a half feet high, and in the profuseness and beauty and expanded form of the blossoms, in the foliage, and in the straightness and vigour of the branches, it is so much superior to the other plants of *E. florida* raised from the same lot of seed, and cultivated with precisely the same care and attention, that Mr. Turnbull cannot but suspect that the seed yielding the individual in question had been the produce of a flower which was fertilized with the pollen

pollen of some other species, probably by an insect. This is, however, only conjecture : for though Mr. Turnbull is in the habit of impregnating the flowers of several heaths with the pollen of others, yet he is certain that the parent of this was not so treated. All the other plants but this have wiry flexuose stems and branches, and are so shy of flowering, that the best of them has only a few blossoms, while the present individual has quite a lively appearance from the profusion of them.

Descr. The plant from which our drawing was made, and indeed the only one raised by Mr. Turnbull, is two and a half feet high : the *stems* and older branches clothed with reddish-brown *bark*. *Leaves* quaternate, rarely ternate, spreading, linear, mucronate, keeled, and with a furrow on the keel at the back. *Flowers* terminal, three to four together, rarely five, forming small umbels at the extremity of short copious lateral spreading branches, drooping. *Pedicels* short, with about three, ovate, pale-white and rose-coloured imbricated bracteas. *Sepals* four, similar to the bracteas in every respect, but larger and broader, appressed to the corolla. *Corolla* four-cleft, broadly campanulate, of a delicate but full rose-colour. *Stamens* included, erect or slightly incurved. *Anthers* ovate, red-brown, awnless ; *cells* acuminate, opening by two large oblique pores. *Germen* globose, five-lobed ; *style* much exserted ; *stigma* a little spreading.

Fig. 1. Flower. 2. Pedicel, Calyx, and Bracteas. 3. Stamens and Pistil. 4. Single Stamen. 5. Pistil, *magnified*. 6. Flower of the true E. *florida* (also communicated by Mr. Turnbull), *magnified*.

Swan Sc

ARISTOLÓCHIA SACCÁTA. POUCH-FLOWERED BIRTH-WORT.

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Class and Order.

GYNANDRIA HEXANDRIA.

(Nat. Ord.—ARISTOLOCHIEÆ.)

Generic Character.

Calyx corollinus superus basi ventricosus, limbo vario. *Antheræ* 2-loculares stigmatis lateralibus insculptæ. *Capsula* infera 6-locularis polysperma. *Spr.*

Specific Name and Character.

ARISTOLOCHIA *saccata;* volubilis, foliis oblongis vel ovato-oblongis acuminatis integris subtus ramisque villosis, floribus lateralibus racemosis, perianthio villoso inflexo medio ventricoso, limbo orbiculato angustissimo subrepando patentissimo fauce maxima. *Wallich.*

ARISTOLOCHIA saccata. *Wall. Plantæ Rariores, v. 2. t.* 103. *Ibid. Catalogue of Indian Plants, No.* 2707, a.

This curious plant is a native of Silhet, and was introduced into the Royal Botanic Garden, Edinburgh, from the Calcutta Garden, in 1829. It produced a succession of flowers in September last, but formed no fruit. I did not perceive that exceedingly offensive smell, for which Dr. WALLICH, in the splendid work above quoted, says that its blossoms are remarkable.

The ensnaring of insects by plants, is observed in many cases, its use disputed, sometimes, I think, misunderstood, and its benevolence in the arrangements of nature considered equivocal. One thing is obvious, it demonstrates premeditation and design in the configuration of parts. The large, heavy pouch in the middle of the tube necessarily keeps

keeps the flower pendulous, and its throat erect. Having removed from the plant one of the racemes for examination, I laid this down on the table, and was surprised to observe a crowd of small flies immediately rush out at the throat. I raised the flowers into their natural position again, and though I saw, by placing them between me and the light, that very many flies were still in the tube, all very restless, and attempting to escape, not one could climb up the now erect throat. I repeated this experiment many times, and always with the same result :—in the horizontal position of the flower, the flies came out instantly,—in the erect position they were imprisoned. I could not discover, even with the microscope, any cause for this, and am forced to suppose, that there may be a particular condition of the surface in the upper part of the tube, from secretion or other cause, which prevents the adhesion of the feet of the insects, though they are able to walk along it when horizontal.

It is supposed that the confinement of insects in flowers is to effect their impregnation, and it has been thought that the decay of their bodies in other parts, as in Dionæa, Nepenthes, and Sarracenia, tends to the nourishment of the plant. The first, I believe, is sometimes true ; —and though I discredit the second theory, I have not in every supposed instance, the means of disproving it. In the case under consideration, and I believe in others, the object seems altogether different. Years ago, I observed a living worm on several of the decayed leaves of Dionæa *muscipula*, and was induced, in consequence, to suspect that the capture of certain insects by this plant was not for their destruction, but to provide a proper nidus for their eggs; and I more confidently believe this to be the case with Aristolochia *saccata* ; for in all the flowers of this plant which I opened, I found many perfect eggs, and many living maggots. Some insects wrap up their eggs in leaves; to others this instinct is denied ; but protection is extended to their race by what, imperfectly understood, has been thought an act of unmixed cruelty.

Descr. *Shrub* volubile ; *stems* very long, slender, branched ; *bark*, when old, corky. *Leaves* (twelve to fifteen inches long, four broad) scattered, ovato-cordate, attenuated at the apex, slightly waved and sinuated, entire in the edges, petiolate, when young covered with brown hairs, which, below, are silky, more dense, subappressed, and longer than above, where they are more erect ; *leaves* when old less hairy,

hairy, rather by the extension of the surface, than by the hairs being deciduous; *middle-rib* and *primary veins* prominent on both surfaces, transverse reticulations only prominent behind. *Racemes* arising from the stem near its base, where the leaves have dropped, and quite in the shade (even under the table in the stove) several-flowered, pendulous, like the petiole and young branches densely covered with brown *hairs*, which are reflexed on the last, but erecto-adpressed on the first two. *Flowers* membranous, covered with spreading hairs, pendulous; *tube* turned upwards in the middle, the reflected portion being parallel to and in contact with the other, yellowish-white within and without, but having externally many nerves, smaller transverse reticulations, and small, glandular excrescences, all of a brick-red colour, contracted a little above its base, (and below this part, both within and without, of a dirty-red colour, and having spread over its inner surface a covering of hairs singularly crystalline and ramified,) forming a large pouch, where it is reflected, and in its erect portion again contracted, flattened in front, and slightly clavate upwards, within this portion, minutely glandular, but without any hairs; *throat* circular, placed vertically, of bright yellow colour, with a narrow, erect margin; *limb* narrow, before expansion folded in three triangular divisions across the throat, when expanded flat and obscurely three-lobed, on its upper (anterior) surface dark purple, densely covered with erect warts of similar colour; on its lower (posterior) surface similar to the outer surface of the tube. *Anthers* six, yellow, two-celled, bursting along the front, oblong, sessile upon the short, stout, clavate *style; pollen* yellow, granules nearly globular. *Stigma* of three acute, connivent lobes, sending projections downwards upon the style, so as to separate the stamens into pairs. *Germen* inferior, slightly clavate, furrowed, densely covered with erect, brown hairs. *Ovules* very numerous, horizontal. *Graham.*

Fig. 1. Pistil with Stamens:—*Magnified.*

3041

Pub by S. Curtis, Glazenwood, Essex, Mar. 1838.

Swan Sc.

Chenopódium Quinóa. Useful Quinoa.

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Class and Order.

Pentandria Digynia.

(Nat. Ord.—Chenopodeæ.)

Generic Character.

Calyx 5-partitus. *Corolla* nulla. *Stamina* 5. *Styli* 2 simplices, vel unicus stigmatibus 2. *Semen* unicum (orbiculare) superum, pellicula tenuissima tectum. *Embryo* peripheric us.

Specific Character and Synonyms.

Chenopodium *Quinoa;* foliis triangulari-ovatis sinuatis subangulato-pinnatifidis glaucis, paniculis axillaribus terminalibusque, floribus densissime glomeratis farinosis.

Chenopodium Quinoa. *Willd. Sp. Pl. v.* 1. *p.* 1301. *Humb. et Kunth, Gen. et Sp. v.* 2. *p.* 153. *Spreng. Sp. Pl. v.* 1. *p.* 920.

Chenopodium folio sinuato saturate virente, vulgo Quinoa. *Feuill. Chil. p.* 15. *t.* 10.

If the present plant boasts neither beautiful forms nor gaudy colours to attract attention, it must be recollected, that we have promised, besides handsome plants, representations of such as are of peculiar interest; and it is upon that ground alone that we venture to figure a vegetable, as unattractive in external aspect as are the *Oraches* and the *Goosefoot* of the road-sides and waste places of our own country. The interest of the Chenopodium *Quinoa* arises from this, that in the temperate regions of South America, it is, like the *Corn* in Europe, the " chief nourishment of the people;" with this difference, however, that it is not made into *bread*. The seeds, with their pericarps—in other words,

words, the little glossy fruits, are what are so extensively employed as an article of food on the Pacific side of South America, from the temperate parts of the Andes to the coast, although the cultivation seems to be chiefly confined to the mountainous districts. We learn from the "Mémoires d'Agriculture" for 1786, that there are few countries in South America where the *Quinoa* is more used than in Lima. Two principal methods are employed in preparing it. In the one case, it is boiled in water like Rice or Oatmeal, and a kind of gruel is the result; in which the seeds are described as floating in the liquid coiled up and looking like little white worms. These are, no doubt, the spirally curved embryos of the seed. It is seasoned in various ways, chiefly with Pimento, and is much liked by those who are accustomed to it; but others find it insipid, and such is especially the case in Europe, where, at Edinburgh, our excellent friend Dr. Neill, tried various methods of preparing this vegetable, but like his countrywoman, the worshipful Lady Pumphraston, who, on receiving, about a century ago, a pound of the finest Green Tea from China, as a rare and valuable present, stewed the same with butter, and served it up as sauce to a salted round of beef, and then marvelled "how folk could praise such worthless, fissenless stuff;" so perhaps, from an equal deficiency in the mode of cooking, our Edinburgh friend could not make "these foreign greens" palatable.

The second mode of preparation employed in South America is called *Carapulque*, and is a favourite dish with the ladies of Lima. The grains are slightly toasted like Coffee, strained, and boiled in water, yielding a brown-coloured bouillie, seasoned with spices as in the first method, but it has so peculiar a flavor that few strangers like it. Two kinds of Quinoa are, however, in use in South America; the one here figured with very pale fruits, called the *White*, and the dark, red-fruited one, called the *Red Quinoa*. The latter is chiefly cultivated in gardens for its medicinal virtues; its seeds bruised and boiled in water, form a bitter decoction, which, mixed with sugar, is employed as a vulnerary for sores and bruises. Cataplasms are also made of this variety. But the bitter principle may be removed, by throwing away the water in which the seeds are infused. Did the *Quinoa* constitute a food agreeable to the European taste, it might be cultivated easily enough; and if grown in a rich soil, or upon the refuse of a hot-bed frame, as the plant was from which the accompanying figure was taken,

it

it attains a height of four or five feet by the month of July, and continues flowering and ripening seeds till cut off by the autumnal frosts. Dr. Graham informs us, that he has cultivated both kinds at Edinburgh. Father Feuillée, in his travels in Peru and Chili, seems first to have brought this plant into notice. Dombey, in 1779, sent seeds to Paris, but they did not succeed; nor are we aware that it was known in a living state in Europe till within these few years, when it was in cultivation first in Paris, and since in England. Mr. Lambert directed public attention to it in 1834: and we are indebted at the Glasgow Botanic Garden to John M'Lean, Esq., of Lima, for seeds, which have increased most abundantly in the course of a single year.

Descr. Herbaceous, annual. *Stem* erect, stout, much furrowed and angled, three to four or even five feet high in a good soil, much branched, the *branches* short, erect, but little again divided. *Leaves* on rather long *petioles*, especially the lower ones, which are almost as large as the human hand, triangular-ovate, sinuated with prominent angles, almost pinnatifid, of a pale, rather glaucous hue, the young ones pulverulent. *Panicles* numerous, axillary and terminal, longer than the leaves, bearing innumerable small green, densely-clustered *flowers*, pulverulent from copious globular granules, which cover them externally. *Perianth* of five lanceolate, concave *leaves*, which scarcely expand, but at almost all seasons are connivent over the *stamens* and *pistils*. *Stamens* five, shorter than the calyx and opposite to its segments. *Anthers* yellow. *Germen* globose, depressed. *Style* bipartite. *Fruit* a depresso-globose *achenium*, with a slightly elevated point in the centre.

Fig. 1. Flower. 2. The same laid open. 3. Fruit, enveloped by the Perianth. 4. Fruit (of the white var.):—*magnified*.

Published by S Curtis. Clarenwood Essex Mar.1.1838.

Mammillária atráta. Dark-green Mammillaria.

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Class and Order.

Icosándria Monogýnia.

(Nat. Ord.—Cacteæ.)

Generic Character.

Calycis tubus ovario adhærens, lobi 5—6 colorati fructum juniorem coronantes. *Petala* 5—25 a calyce vix distincta, eo longiora et cum sepalis in tubum concreta. *Stamina* filiformia pluriserialia. *Stylus* filiformis. *Stigma* 3—7-fidum radiatum. *Bacca* lævis oblonga. *Semina* nidulantia. *Cotyledones* minutæ acuminatæ.—Suffrutices *carnosi subrotundi aut cylindracei, lactescentes aut succo limpido repleti, aphylli, tuberculis subconicis mammæformibus spiraliter dispositis, apice spinulas radiantes et tomentum demum deciduum gerentibus obtecti.* Flores *inter basin mammillarum sessiles, sæpius in zonam transversam dispositi.* Bacca *obovata edulis, calyce marcescente demum deciduo, coronata. Pfeiff.*

Specific Character and Synonym.

Mammillaria *atrata;* simplex ovali-cylindracea, crassa, mammillis grossis conicis subobtusis inferioribus compressis apice obtusis, areolis albo-villosis setosis, aculeis semiuncialibus rigidiusculis strictis subæqualibus patentibus rufis demum albis, floribus sub apice insertis copiosis, petalis subæqualibus patentibus.

Mammillaria atrata. *Hort. Mack.*

A beautiful plant, from the choice collection of Mr. Mackie, at Lakenham, near Norwich, where, by that gentleman's skilful management, it flowers in very high perfection. It will be seen by Pfeiffer's useful "Enumeratio Cactearum,"

Cactearum," that he refers the Mammillaria *atrata* of gardens to the M. *rhodantha*, Link and Otto, "Hortus Berolinensis;" but from that our plant is wholly different; nor do I find it characterized in any work to which I have access. The drawing was kindly communicated by the Messrs. Mackie; but the native country does not appear to be ascertained; though probably Chili, from whence it is well known that Mr. Hitchin, the former possessor of Mr. Mackie's collection, received many excellent Cacteæ. As I have not had the advantage of seeing the living plant, I abstain from offering any description, which could no way illustrate so excellent a figure as that which is here given.

W. Fitch del.ᵗ

Pub. by S. Curtis. Glarenwood Rosey. Mar 1. 1838.

Swan Sc.

Dendróbium aggregátum. Close-flowered Dendrobium.

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Class and Order.

Gynandria Monandria.

(Nat. Ord.—Orchideæ.)

Generic Character.

Sepala membranacea, erecta vel patentia, lateralibus majoribus obliquis cum basi producta columnæ connatis. *Petala* sepalo supremo sæpius majora, nunc minora, semper membranacea. *Labellum* cum pede columnæ articulatum vel connatum, semper sessile, indivisum vel trilobum, sæpius membranaceum, nunc appendiculatum. *Columna* semiteres, basi longe producta. *Anthera* bilocularis. *Pollinia* 4, per paria collateralia.—Herbæ *epiphytæ, nunc caulescentes, nunc rhizomate repente pseudo-bulbifero.* Folia *plana, sæpius venosa.* Flores *solitarii fasciculati vel racemosi speciosi. Lindl.*

Specific Character and Synonyms.

Dendrobium *aggregatum;* pseudo-bulbis cæspitosis monophyllis ovatis sulcatis stipitatis cuticulo cinereo vestitis, foliis oblongis emarginatis coriaceis nervosis, racemo laterali cernuo multifloro fere duplo brevioribus, petalis ovatis sepalo latioribus, labello subintegerrimo latiore quam longo basi concavo pubescente.

Dendrobium aggregatum. *Roxb. Fl. Ind. v. 3. p. 477. Lindl. in Wall. Cat. Bot. Reg. t.* 1695.

The plant was received at the Botanic Garden, Edinburgh, from Wentworth, the seat of Earl Fitzwilliam, in 1836, and flowered in the beginning of May, 1837. It is handsome ; but its blossoms quickly expand, and they probably last but a short while, in which case, they will be much

much less ornamental than the ONCIDIUMS, which flower with us at the same time, but whose individual blossoms are in beauty for many days.

DESCR. *Pseudo-bulbs* (two inches long) ovate, crowded, having about eight broad shallow grooves, and as many prominent subacute ridges, loosely covered with a gray, shining, wrinkled cuticle, and marked with two transverse lines (joints), the outer stipitate. *Leaf* solitary, oblong, coriaceous, obscurely nerved, emarginate, and somewhat unequal at the apex, attenuated at the base, twice as long as the bulb. *Raceme* (six inches long) protruded laterally from the upper joint, cernuous, many-flowered, lax. *Flowers* springing from the axil of a small, acute *bractea*, orange-coloured, darkest towards the base of the lip ; *sepals* ovate, united at their base, where the two lowest form a little pouch behind the base of the lip ; *petals* ovate, broader and longer than the sepals, on short claws ; *lip* broader than long, entire in the middle, ciliated towards the base, slightly undulate, concave at their base, and excavated over the point of its insertion into the base of the column, minutely pubescent in front. *Column* short, streaked with red in front, having a truncated scale near its base, scarcely hollowed at the stigma, toothed at each side of the anther, and in the centre behind affording attachment to the bilocular, greenish *anther-case ; pollen-masses* sessile, each grooved along the centre. *Graham.*

Fig. 1. Column and Sepals. 2. Lip :—*magnified.*

Collétia hórrida. Bristling Colletia.

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Class and Order.

Pentandria Monogynia.

(Nat. Ord.—Rhamneæ.)

Generic Character.

Calyx campanulatus, membranaceus, coloratus. *Petala* o, vel minutissima, linearia. *Stamina* antheris ovatis bilocularibus vel reniformibus unilocularibus. *Discus* brevis, cupulæformis, fundo calycis adnatus. *Ovarium* liberum, triloculare. *Stylus* simplex, elongatus. *Fructus* basi calycis tubo persistente cinctus, tricoccus, dehiscens. *Semina* sessilia. *Brongn.*

Specific Character and Synonyms.

Colletia * *horrida* ; spinis validis, florum fasciculis sparsis, calycibus ovato-cylindraceis, antheris subsessilibus.
Colletia horrida. *Brongn. in Ann. des Sc. Nat. v.* 10. *p.* 366. *t.* 14. *f.* 1. *Lindl. Bot. Reg. t.* 1776. *(non Willd.)*
Colletia ferox. *Gill. et Hook. Bot. Misc. v.* 1. *p.* 154. *t.* 44. b.

A singular but not very ornamental plant, belonging to a Genus remarkable for its spinescent character, natives of the temperate, and chiefly extratropical parts of South America; growing in sandy places, and seeming to occupy such spots as the *Whin* or *Furze* does with us. Leaves only exist in young plants, or the tender shoots; in age they seem almost made up of spines; but in none in so extraordinary

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* Named in compliment to a French Botanist of the name of Collet, of whom little is known, except that he studied the plants of Brazil, and opposed the system of the celebrated Tournefort.

a manner as in the C. *cruciata*, Hook. et Gill. Bot. Misc. v. 1. p. 152. t. 43, which was found by Dr. Gillies near Maldonado, in the Banda Oriental. It is a mass of opposite, decussated and decurrent, large, lateral, compressed spines, of a dark green colour, but woody and exceedingly rigid. Our present species is of a much milder character, yet so rigid as to be used in its native country, Chili and Mendoza, instead of brooms, whence it has, with many other such plants, received the Spanish name of *retinilla*. In a warm and dry situation it survives our English winters; and the drawing here made by Mrs. Pope was sent by Mr. Curtis, in whose garden, we believe, it flourished, blossoming in June.

Descr. A small, tufted *bush*, with innumerable spinous *branches*, the spines simple or divided, very generally tripartite, terete, clothed with a soft green *bark*. *Leaves* are only borne by the younger shoots, and are small, opposite, ovate, serrated, glabrous on short *petioles*. *Flowers* from the axils of the spines in the upper part of the branches, fasciculated, drooping. *Peduncles* scarcely half an inch long. *Calyx* white, externally tinged with green and rose colour, ovato-cylindrical, the mouth a little spreading, cut into five recurved segments, lined within, at the base, with a fleshy disk, involute at the margin, where a separation takes place as the fruit ripens. *Stamens* five. *Anthers* sessile, roundish-reniform, opening, as it were, with two unequal lips. *Germen* globose; *Style* shorter than the calyx; *Stigma* small, three-cleft.

PENTSTÉMON DIFFÚSUS. SPREADING PENTSTEMON.

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Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—SCROPHULARINEÆ.)

Generic Character.

Calyx 5-partitus. *Corolla* bilabiata, ventricosa. *Rudimentum* filamenti quinti superne barbatum. *Capsula* bilocularis.

Specific Character and Synonyms.

PENTSTEMON *diffusus ;* ramosus diffusus, foliis inferioribus lato-ovatis petiolatis superioribus sensim minoribus sessilibus acuminatis omnibus grosse inæqualiter serratis, panicula foliosa, laciniis calycinis tubo corollæ 3-plo brevioribus lanceolatis serratis.
PENTSTEMON diffusus. *Dougl. Journ. ined. Lindl. Bot. Reg. t.* 1132. *Hook. Fl. Bor. Am. v.* 2. *p.* 95.

A very handsome species, of a beautiful, and now, thanks to the labours of its discoverer, extensive Genus. No less than twenty-three are enumerated as inhabiting the British Possessions in North America, of which seventeen were new discoveries of Mr. DOUGLAS. His success was almost equally great in California, and others, and very splendid species indeed, are found to inhabit the warmer parts of the United States and Mexico. The present is a native of the mouth of the Columbia River, and was introduced by the Horticultural Society in 1827. It flowers through the summer and autumnal months.

DESCR. A hardy herbaceous plant, with perennial *root*. *Stems* spreading, two and even three feet high, glabrous, as

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is every part of the plant. *Leaves* ovate, all of them very coarsely and unequally serrated, the lower ones tapering into a footstalk, the rest sessile, gradually becoming smaller and more acuminated on the upper part of the stem. *Peduncles* two and three inches long, leafy upwards, and bearing a *corymb* of three to five or six large purple *flowers*. These *peduncles* arise from the axils of the leaves in the upper part of the plant, so that the inflorescence may be described as a large, leafy *panicle*. *Calyx* about one-third the length of the tube of the corolla, its segments lanceolate, serrated. *Corolla* with the *throat* inflated, the *limb* two-lipped, the upper lip with two, the lower with three nearly equal lobes. *Stamens* included. *Barren filament* rather longer than the tube, bearing a conspicuous white tuft of hairs.

Fig. 1. Calyx with a portion of the Corolla, bearing the Stamens, and including the Pistil :—*magnified*.

W. Fitch del.

Pub. by S. Curtis Glaxenwood Essex Mar. 1. 1838.

Swan Sc

Mammillária ténuis. Taper Mammillaria.

Class and Order.

Icosandria Monogynia.

(Nat. Ord.—Cacteæ.)

Generic Character.

Calycis tubus ovario adhærens, lobi 5—6 colorati fructum juniorem coronantes. *Petala* 5—25 a calyce vix distincta, eo longiora et cum sepalis in tubum concreta. *Stamina* filiformia pluriserialia. *Stylus* filiformis. *Stigma* 3—7-fidum radiatum. *Bacca* lævis oblonga. *Semina* nidulantia. *Cotyledones* minutæ acuminatæ.—Suffrutices *carnosi subrotundi aut cylindracei, lactescentes aut succo limpido repleti, aphylli, tuberculis subconicis mammæformibus spiraliter dispositis, apice spinulas radiantes et tomentum demum deciduum gerentibus obtecti.* Flores *inter basin mammillarum sessiles, sæpius in zonam transversam dispositi.* Bacca *obovata edulis, calyce marcescente demum deciduo, coronata. Pfeiff.*

Specific Character and Synonyms.

Mammillaria *tenuis ;* basi sæpe multiplex, cylindracea, axillis angustis nudis, mammillis ovatis, areola juniorum sublanata, aculeis setiformibus 20—25 flavidis radiantibus mammilla paulo longioribus, centralibus nullis.

Mammillaria tenuis. *De Cand. Rev. des Cact. p.* 110. *Mém. p.* 4. *t.* 1. *Lindl. Bot. Reg. t.* 1523. *Pfeiff. Enum. Cact. p.* 6.

This is no doubt a variable plant. The specimen to which De Candolle applied the name, though as tall as the one here figured, was only five lines in diameter. Of the beautiful little group to which this belongs, four kinds were

were discovered in Mexico, M. *echinaria, subcrocea, intertexta*, and the present one, all of De Candolle, but these four, that able traveller, Dr. Coulter, who had the opportunity of studying them in their native soil, considers, contrary to the opinion of De Candolle, as but forms of one and the same species. Indeed the M. *densa* of Link and Otto, Hort. Berol. t. 35, (*var.* β. of M. *echinata*, according to Pfeiffer,) can scarcely be distinguished from this, but by its rather large mammæ, and longer and straighter spines. Be that as it may, the present plant is one of great beauty and of very curious structure. The aculei are so closely placed and so regular and delicate, that they seem to clothe the plant with a fine cobwebby substance. The specimen from which the present drawing was taken, flowered in the stove of the Glasgow Botanic Garden in the month of May. It grows freely, and is readily increased by offsets.

Descr. *Plant* two to four inches high, and an inch or more in diameter, cylindrical, or a little tapering upwards, throwing out copious nearly globose offsets from the sides, especially at the base. The whole is covered with *mammillæ* of an hemispherical form, green, about a quarter of an inch in diameter, each tipped with a tuft of white down, from which diverges a cluster of about twenty slender, recurvopatent aculei, nearly as long as the mammillæ, at first reddish, then yellowish or pale tawny. From below the summit and from all sides indifferently, spring the *flowers*, solitary, small, and campanulate, they are pale straw-coloured, slightly externally tinged with red.

Fig. 1. Flower. 2. Pistil :—*magnified.*

Pub. by S. Curtis, Covent Garden, for 1 1838.

MAMMILLÁRIA FLORIBUNDA. COPIOUS-FLOWERING MAMMILLARIA.

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Class and Order.

ICOSANDRIA MONOGYNIA.

(Nat. Ord.—CACTEÆ.)

Generic Character.

Calycis tubus ovario adhærens, lobi 5—6 colorati fructum juniorem coronantes. *Petala* 5—25 a calyce vix distincta, eo longiora et cum sepalis in tubum concreta. *Stamina* filiformia pluriserialia. *Stylus* filiformis. *Stigma* 3—7-fidum radiatum. *Bacca* lævis oblonga. *Semina* nidulantia. *Cotyledones* minutæ, acuminatæ.—Suffrutices *carnosi subrotundi aut cylindracei, lactescentes aut succo limpido repleti, aphylli, tuberculis subconicis mammæformibus spiraliter dispositis, apice spinulas radiantes et tomentum demum deciduum gerentibus obtecti.* Flores *inter basin mammillarum sessiles, sæpius in zonam transversam dispositi.* Bacca *obovata edulis, calyce marcescente demum deciduo, coronata. Pfeiff.*

Specific Name and Character.

MAMMILLARIA *floribunda ;* simplex subdeformis globoso-subcylindracea, mammillis grossis conico-hemisphæricis obtusis, areolis villoso-tomentosis, aculeis 14—16 validis strictis subæqualibus viridi-fuscis, floribus copiosissimis, petalis valde inæqualibus interioribus erectis.

This really fine MAMMILLARIA was imported by Mr. HITCHIN from Chili, and passed with the rest of that gentleman's rich collection of CACTEÆ into the hands of Messrs. MACKIE of the Norwich Nursery, who kindly sent the beautiful figure here represented. I do not find it any where described ;

described; indeed, we cannot but regret how few of the many Cacteæ noticed by Travellers as inhabiting the Pacific side of *extra-tropical* America, have been yet introduced to our gardens. The early writers on Cacteæ erred in considering the Cacteæ as almost peculiar to the warmer parts of the tropics, and curiosity was much excited when Dr. Gillies sent from Mendoza (lat. 33° 25″ S.) no less than twenty-two species. The distinguished Traveller and Naturalist, Mr. C. Darwin, found "Cacti abundant, and of a large size, at Rio-Negro in latitude 41° S.:" and one species, Opuntia *Darwinii*, Henslow, was seen by that gentleman so far South as Port St. Julian in lat. 49° S., though more abundant in Patagonia, at Port Desire, lat. 47° S., where the climate indeed is remarkably dry and clear, hot in summer, but with sharp frosts during the winter nights.

The present species I have no opportunity of describing particularly. It will be at once seen that in some characters it approaches our M. *atrata* (t. 3642) differing, however, abundantly in its stouter habit, larger, and less closely placed, and more projecting mammillæ, the stouter and coarser aculei, larger flowers, and very unequal petals, which are moreover of a paler red colour, yellowish in their lower half.

W Fitch del.

Pub by S. Curtis Glazenwood Essex Apr. 1 1838.

Cymbídium tríste. Lurid-flowered Cymbidium.

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Class and Order.

Gynandria Monandria.

(Nat. Ord.—Orchideæ.)

Generic Character.

Perianthium explanatum, petalis sepalisque subæqualibus liberis. *Labellum* sessile, liberum, ecalcaratum, concavum, cum basi columnæ nunc articulatum, nunc leviter connatum, indivisum vel trilobum. *Columna* erecta, semiteres. *Anthera* bilocularis. *Pollinia* 2, sæpius postice biloba, in glandulam subtriangularem subsessilia. *Lindl.*

Specific Character and Synonyms.

Cymbidium *triste;* foliis teretibus, racemo axillari subsessili, sepalis oblongis æqualibus 3 superioribus conniventibus, labello trilobo lobis lateralibus abbreviatis terminali transverso cordato.

Cymbidium triste. *Willd. Sp. Pl. v. 4. p. 99. Lindl. Orchid. p. 167. Spreng. Syst. Veg. v. 3. p. 722.*
Epidendrum triste. *Forst. Prodr. n. 314.*
Epidendrum teres. *Thunb.*
Luisia teretifolia. *Gaudich. Voy. Part. Bot. p. 437. t. 47.*
Vanda ? trichorhiza. *Hook. Ex. Fl. t. 72.*

A very remarkable Epiphyte, though destitute of the gaudy flowers which distinguish so many individuals of this family. It is a native of various countries in the South-eastern portion of the Old World, as New Caledonia, (where it was first discovered by Forster during the celebrated voyage of Captain Cook,) the Mariane Islands, Japan, Ceylon, and Nepal. It was introduced from the latter country to our stoves by Dr. Wallich, and our first knowledge

ledge of it was derived from a plant which flowered at the Liverpool Botanic Garden several years ago, and we then referred it doubtfully to the Genus VANDA. Our present figure was taken from a plant that blossomed in Mr. HORSFALL's rich collection at Everton.

DESCR. *Stem* eight to ten inches high, throwing out strong fibres from the base, which appear to be sometimes clothed with a woolly substance. *Leaves* three to four or five inches long, terete, fleshy, green. *Flowers* in a short, sessile *raceme*, from the axil of a leaf, drooping. *Sepals* oblong, concave, fleshy, purplish-yellow, the three upper ones connivent over the *column*, while the two lower ones are situated under the lip. *Lip* large in proportion to the size of the blossom, of a very rich deep purple hue, three-lobed, the lateral lobes obsolete, the terminal one broader than long, cordate. *Column* short, pale green, partially mottled with purple. *Anther-case* tawny. *Pollen-masses* yellow.

Fig. 1. Front view of a Flower. 2. Column and Anther. 3. Anther-case. 4. Pollen-masses :—*magnified.*

W. Fitch Del.t

Pub. by S. Curtis Glazenwood Essex Apr. 1. 1838.

Swan Sc

Bártonia aurea. Golden Bartonia.

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Class and Order.

Icosandria Monogynia.

(Nat. Ord.—Loaseæ.)

Generic Character.

Calycis tubus cylindraceus arcte ovarium vestiens, sed forsan liber ; *limbus* 5-partitus persistens. *Petala* 10 unguiculata calyce inserta. *Stamina* innumera (200—250) cum petalis inserta, iis breviora, filamentis liberis, externis interdum sterilibus, antheris oblongis. *Stylus* filiformis striis 3—7 spiralibus notatus et inde stylis 5—7 omnino convexis et spiraliter tortis constans. *Capsula* oblonga, 1-locularis, 3—7-valvis, placentis totidem seminum series 2 gerentibus. *Semina* compressa numerosa.—Herbæ *pilis barbatis rigidis tenacibusque pubescentes.* Folia *alterna interrupte pinnatifida.* Flores *terminales solitarii ampli albi (vel lutei).*

Specific Character and Synonym.

Bartonia *aurea ;* foliis ovato-lanceolatis simpliciter pinnatifidis laciniis inferiorum grosse serratis, bracteis ovatis pinnatifidis flores obvallantibus, petalis 5 obovatis cuspidatis, filamentis numerosissimis omnibus filiformibus. *Lindl.*

Bartonia aurea. *Lindl. Bot. Reg. t.* 1831.

Bartonia is exclusively an American Genus, and as the author of it (Nuttall) justly observes, one of the most singular and splendid of that vast Continent. It commemorates the name of Dr. Benjamin Smith Barton, of Philadelphia, Professor of Botany in the University of that city, and author of " Elements of Botany" (of which an English edition appeared in 1804), and of " Fragments of the Nat. History of Pennsylvania." Sir James E. Smith says of him that, " after many exertions and several publications in the cause of Natural Science, he died of hydrothorax, on the 19th of December, 1815, in the fiftieth year of his age. His nephew, Dr. William Barton, in an animated and interesting

ing ‘ Biographical Sketch’ of his character and pursuits, has preserved some account of the plants which compose this Genus, written by the late Professor three or four days before his death, and accompanied by many particulars relative to Mr. Pursh and Mr. Nuttall, through whose means it has come to the knowledge of European Botanists; all which evince a love of Science, which the most painful bodily sufferings could not repress.”

The Genus was founded on the Bartonia *ornata*, Pursh and Nuttall (B. *decapetala*, Sims, Bot. Mag. t. 1487,) and it truly deserved the name on account of its very large white and handsome blossoms, each of ten petals, an inhabitant of the Missouri. To this Nuttall added, from the same country, B. *nuda*, a species from the same locality, and with a similar habit, but with smaller flowers. Mr. Douglas in his first expedition to North-west America found three new species on the Columbia, which I had the satisfaction of publishing in the Flora Bor. Americana, B. *lævicaulis*, (with a figure, t. 69,) B. *parviflora*, and B. *albicaulis* :—and in his second visit to those regions, he had the singular good fortune to discover this, the most showy of the whole, having golden, not white (as the rest of the species) flowers, near Monterey, in California, and he sent home seeds in 1834. The Horticultural Society has liberally distributed the seeds, which, proving perfectly hardy, the plant is now found in gardens very remote from the metropolis, even in the Highlands of Argyleshire. Its flowers continued with us in succession and in great beauty from July till October. This is perhaps the only species of Bartonia that has ever flowered in Britain, (Dr. Sims’ B. *decapetala* having been drawn from a dried specimen,) and it is probably a misunderstanding on the part of Pursh, that the flowers open “ only during the night;” and this has been noticed as a character of the Genus. Nuttall says the blossoms expand towards sunset. This is certain, that those species discovered by Douglas, have their flowers expanded only during the hot sunshine.

Descr. *Root* annual. *Stem* two to three feet high, branched and straggling, succulent, scabrous. *Leaves* lanceolate, pinnatifid, the segments entire or coarsely serrated; smaller ones, or *bracteas*, immediately surround the calyx, but they do not so completely conceal them as in B. *ornata*. *Peduncles* axillary, each bearing two or three *flowers*, of which only one expands at a time. *Calyx* of five lanceolate segments, much shorter than the petals. *Corolla* of five large, bright yellow, obcordate *petals*, red at the base. *Stamens* numerous, the outer ones much the longest. *Anthers* twisted after the *pollen* is discharged. *Germen* inferior, furrowed. *Style* filiform.

Fig. 1. Calyx and Pistil. 2. Portion of a Stamen with perfect Anther. 3. Outer, and 4, inner Stamen, with the Anthers twisted in age:—*magnified*.

W. Fitch del.t

Pub by S Curtis Glazenwood Essex. Apr 1 1838.

Jw in sc

LOPHOSPÉRMUM SCÁNDENS. CLIMBING LOPHOSPERMUM.

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Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—SCROPHULARINEÆ.)

Generic Character.

Calyx 5-partitus. *Corolla* campanulata; *limbo* 5-lobo, subæquali. *Capsula* bilocularis, irregulariter dehiscens. *Semina* imbricata, membranaceo-alata.

Specific Character and Synonyms.

LOPHOSPERMUM *scandens;* foliis cordatis grosse inæqualiterque dentatis tenuissime glanduloso-pubescentibus, calycis segmentis oblongis apice attenuatis, corolla extus nuda lobis inferioribus erectis.

LOPHOSPERMUM scandens. *Don, in Linn. Soc. Trans.* 15. 353, (not *Don in Sw. Br. Fl. Gard. t.* 68, nor *Bot. Mag. t.* 3037, 3038, *which is now* L. erubescens. *Don.*) *Henslow, in the Botanist, No.* 17.

This plant, though only lately introduced, is easily cultivated, either in the open air or in the greenhouse, and has, with the LOPHOSPERMUM *erubescens*, and the RHODOCHITON *volubile*, even, within a few months, given a character to our trellises as new, as that imparted a few years ago to our greenhouses, by the introduction of the Fuchsias, Calceolarias, and the varieties of the genus SALPIGLOSSIS.

DESCR. *Plant* herbaceous, scandent by its petioles, with long slender branches, everywhere, excepting on the outside of the corolla, finely glanduloso-pubescent. *Leaves* (an inch and three quarters broad, two and a half long) opposite below, alternate above, petiolate, heart-shaped, subacute,

subacute, coarsely and unequally toothed, of lively green above, paler below, seven-nerved, nerves prominent below, channelled above, teeth mucronate. *Petioles* as long as the leaves, grooved above. *Peduncles* solitary, axillary, single-flowered, erect, reaching beyond the middle of the leaf. *Calyx* five-partite, segments (one inch long, five lines broad) oblong, slightly cordate at the base, attenuated and connivent at the apex, projecting outwards along their edges, entire, slightly undulate, subequal, the lowest rather the shortest. *Corolla* twice as long as the calyx, funnel-shaped, purplish-rose-coloured, obscurely dotted on its outside, but without pubescence; *tube* white, especially on its lower side, flattish above, with two grooves below, dilated and angular where it covers the germen; *limb* five-lobed, uppermost lobes largest, subacute, reflected, slightly pubescent within, lowermost blunt, erect, the middle one the smallest, and from its base on each side proceeds, to the origin of the longer stamens, an elevated line corresponding with the groove on the outside, and covered with short erect coarse hairs, yellow only towards the limb, and much less dense than in LOPHOSPERMUM *erubescens*. *Stamens* four, didynamous, as long as the tube, from the base of which they arise, and to which they are adherent till they pass the germen, above which they are free, and hairy for a little way, higher up glabrous, sprinkled with a few colourless glands only towards the anthers; *anthers* cream-coloured, lobes diverging below, and bursting along the face; *pollen granules* minute. A minute tuft of hairs between the shorter stamens, and a little below the part at which they become free, is the rudiment of a fifth stamen. *Pistil* as long as the shorter stamens; *germen* small, conical, green, seated upon a yellowish obscurely lobed glabrous disk; *style* continuous, straight, in contact with the upper side of the tube, glabrous, bent nearly to a right angle immediately below the stigma. *Ovules* very many. *Graham.*

Pub by S Curtis Glazenwood Essex Apr 1.1838

Cereus pentalophus; β subarticulatus. Five-winged Cereus, somewhat jointed *var.*

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Class and Order.

Icosandria Monogynia.

(Nat. Ord.—Cacteæ.)

Generic Character.

Sepala numerosissima imbricata, basi ovario adnata, in tubum elongatum concreta, exteriora breviora calycinalia, medio longiora colorata, intima petaliformia. *Stamina* numerosissima cum tubo concreta. *Stylus* filiformis, apice multifidus. *Bacca* areolata, sepalorum reliquiis squamata aut tuberculosa. *Cotyledones* acuminatæ.—Frutices *carnosi subglobosi vel elongati, stricti, articulati vel repentes, axi ligneo interne medullifero donati, angulis verticalibus spinarum fasciculos gerentibus vel inermibus regulariter sulcati.* Anguli *seu alæ nunc plurimæ, nunc paucissimæ, rarius duo tantum, et tunc rami compresso-alati inermes.* Flores *ampli e spinarum fasciculis lateralibus trunci aut ramorum vetustiorum, aut crenis angulorum orti.* Fructus *oviformes, plerumque anno sequente maturescentes, edules. Pfeiff.*

Specific Character and Synonyms.

Cereus *pentalophus;* erectus cinereo-viridis obtusus, costis 5 verticalibus obtusis, fasciculis approximatis, areola juniore velutina, aculeis 5—7 setaceis divergentibus, junioribus albido-flavidis, adultis griseis.

Cereus pentalophus. *De Cand. Rev. des Cact. p.* 117. *Pfeiff. Enum. Cact. p.* 101.

(α.) *simplex;* caule simplice, sinubus latis obtusis, costis parum prominulis, aculeis albidis, areolis subnudis.

Cereus propinquus. *De Cand.*

(β.) *subarticulatus;* caule ramosissimo subarticulato, costis irregularibus subrepandis vel tuberosis, sinubus angustioribus, aculeis junioribus flavescentibus, areolis albo-lanatis. *Pfeiff.*

Cereus leptacanthus. D C. (Tab. nostr. Tab. 3651.)

C.

C. *pentalophus*, with its varieties above quoted from De Candolle, was discovered by Dr. Coulter in Mexico, but it does not appear from the descriptions that its flowers were known previous to the blossoming of the present individual in Mr. Mackie's collection at Norwich. The flower is exceedingly handsome, of a fine rose colour, paler and almost white in the centre, where are the yellow anthers, and rising above them is the cluster of dark blue-green *styles*. The *germen* is prickly like the stem.

W Fitch del.

Pub by S. Curtis Glazenwood Essex Apr. 1 1833

Swan Sc

KENNÉDYA NÍGRICANS. DINGY-FLOWERED KENNEDYA.

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Class and Order.

DIADELPHIA DECANDRIA.

(Nat. Ord.—LEGUMINOSÆ.)

Generic Character.

Calyx bilabiatus, labio superiore bidentato, inferiore trifido æquali. *Corolla* papilionacea, vexillo recurvo a carina non reflexo. *Stamina* diadelpha. *Stigma* obtusum. *Legumen* lineare compressum isthmis cellulosis transversis multiloculare. *Semina* strophiolata.—Frutices *Novæ Hollandiæ volubiles.* Pedunculi *axillares.* Flores *rubri aut violacei, vexillo basi bimaculato.*

Specific Character and Synonym.

KENNEDYA *nigricans;* foliolis ovatis retusis solitariis ternatisve, racemis simplicibus, floribus erectis secundis, carina recta vexillo sublongiore, alis apicibus patentibus, calycibus villosis basi angustatis
KENNEDYA nigricans. *Lindl. Bot. Reg. t.* 1715.

Our specimens of this New Holland climber, sent both by Messrs. LOWE, of Clapton, and from the Edinburgh Botanic Garden, differ from the figure given of it by Professor LINDLEY in having the leaves altogether simple, and the flowers of a much deeper colour, almost approaching to black, forming a striking contrast with the rich scarlet-blossomed species which abound in the same country.

DESCR. A twining *shrub,* attaining a considerable height, more or less pubescent. *Leaves* in our specimens simple, large, broadly ovate, almost cordate at the base, retuse at the apex, sometimes ternate on the same branch.

Stipules

Stipules small, ovate, pointed. *Peduncles* axillary, much longer than the petiole, bearing a raceme of erect, secund *flowers*. *Pedicels* about as long as the calyx, which latter is hairy with dusky pubescence. *Corolla* dark, black-purple. *Vexillum* oblong, remarkably retrofracted, pale yellow in the disk. *Wings* as long as the keel, narrow, the extremities spreading. *Keel* nearly straight. *Stamens* ten, diadelphous. *Style* a little longer than the stamens. *Stigma* small, capitate.

W. Fitch del.

Rehmánnia Chinénsis. Chinese Rehmannia.

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Class and Order.

Didynamia Angiospermia.

(Nat. Ord.—Scrophularineæ.)

Generic Character.

Calyx campanulatus, 5-fidus. *Corolla* ringens, tubuloso-ventricosa; limbo 5-lobo, lobis subæqualibus 2 superioribus reflexis. *Stamina* didynama. *Antheræ* terminales, loculis divergentibus muticis. *Stigma* bilamellatum. *Capsula* ovata, polysperma, unilocularis, bivalvis; valvulis in media parte septiferis, marginibus liberis. *Semina* albuminosa, ovata, membrana spongiosa reticulata involuta. *Fisch.*

Specific Character and Synonyms.

Rehmannia* *Chinensis. Fisch. et Meyer, Ind. Sem. Hort. Petrop. p.* 36. *Lindl. Bot. Reg. t.* 1960.
Rehmannia glutinosa. *Libosch in Herb. Imp. Petrop.*
Gerardia glutinosa. *Bunge Enum. Plant. Chin. p.* 49. (not Linn.)
Digitalis glutinosa. *Gærtn. in Nov. Commen. Acad. Imp. Petrop. v.* 14. *p.* 544. *t.* 20.

This interesting plant is a native of walls and of waste and mountainous places about Pekin, where it was collected by Dr. Bunge, now Professor of Botany at Kasan, who accompanied the Ecclesiastical Russian Mission to China. The result of his botanical researches there were given in a work entitled " Enumeratio Plantarum, quas in China Boreali

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* Probably named in compliment to a Botanist of the name of Rehmann.

Boreali collegit Dr. Al. Bunge, Anno 1831." On his return, he explored the Altaic Mountains with such success as to be rewarded by the discovery of three hundred and fifty species of plants, including many new ones, and which will form a valuable supplement to the already extensive Flora of that country, published by Dr. Ledebour. Treated as a hardy greenhouse plant, Rehmannia *Sinensis* flowers readily in the early summer. Its blossoms vary somewhat in size and in colour, as may be seen by a comparison of our figure with that of Professor Lindley.

Descr. Pubescenti-hirsute. *Stem* from a span to a foot high, erect, weak, tinged with purple, branched at the base. *Leaves* obovate, alternate, tapering into a short stalk at the base, acute, remotely and coarsely subinciso-serrate, somewhat shining, wrinkled with veins: lower petioles about an inch long. *Peduncles* axillary, solitary, from almost every leaf, single-flowered, longer than the leaf. *Calyx tube* oval, inflated, striated with ten elevated lines, the limb of five recurved ovate segments, of which the two lower ones are set more apart than the rest. *Corolla* large, handsome, yellowish-buff, deeply tinged at the mouth and upper part of the tube both within and without; dark purple, hairy all over; the *tube* remarkably compressed, the *limb* large, spreading, two-lipped, upper lip of two, lower of three oval, obtuse, emarginate lobes, marked with reticulated veins as in Hyoscyamus. *Stamens* and *style* quite included. *Filaments* four, didynamous, yellow, spotted with purple, not half the length of the corolla, and arising from near its base. *Anthers* of two diverging, oblong cells. *Germen* ovate, green, inserted on an annular disk, one-celled with two parietal placentæ, bearing two lobes with numerous ovules. *Style* reaching the height of the stamens. *Stigma* two-lipped, as in Mimulus.

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Pub.by S.Curtis. Glaxencwood Essex. May

Swan Sc.

AGAVE AMERICANA; *var.* foliis variegatis. GREAT AMERICAN ALOE; with variegated leaves.

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Class and Order.

HEXANDRIA MONOGYNIA.

(Nat. Ord.—BROMELIACEÆ.)

Generic Character.

Corolla infundibuliformis, basi tubulosa; limbo erecto, 6-partito, æquali. *Stamina* exserta, summo tubi inserta; filamentis longis, subulatis, compressis, suberectis. *Antheræ* magnæ, lineares, versatiles. *Stylus* filiformis, subtrigonus. *Stigma* capitato-trigonum. *Capsula* oblonga v. obovata, subtrigona, trilocularis, polysperma. *Semina* numerosissima, biserialia, plana.

Specific Character and Synonyms.

AGAVE * *Americana;* foliis dentato-spinosis, scapo ramoso, tubo corollæ medio angustato, staminibus corolla longioribus stylo subbrevioribus.

AGAVE Americana. *Linn. Sp. Pl. p.* 461. *Ruiz et Pav. Fl. Peruv. v.* 3. *p.* 66. *Humb. et Bonpl. Nov. Gen. v.* 1. *p.* 238. *Andr. Bot. Rep. t.* 438. *Roem. et Sch. Syst. Veget. v.* 7. *p.* 722. *Spr. Syst. Veget. v.* 2. *p.* 78.

Var. β. foliorum marginibus flavis. *(Tab. nostr.* 3654.*)*

The *Aloe*, that Patriarch of the Flowers, which "blooms once in a hundred years, and whose blossoms then are developed with such rapidity, as to occasion an explosion resembling the firing of a cannon," is the theme of a tale that all have heard from their infancy, and to which many still give credence. In regard to the age at which the plants flower, that is extremely uncertain, and depends much upon the

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* From αγαυος, *admirable*, on account of the stateliness and grandeur of this plant.

the health and vigour of the individuals, and the degree of heat to which they have been exposed. Many live to a great age, and appear never to flower at all. In warm climates twenty-five or thirty years, and, probably, a much shorter period is sufficient to bring them to perfection. The most remarkable instance on record of the early flowering of the *American Aloe* is that detailed by Mr. HAWKINS in the Transactions of the Horticultural Society, v. 4. p. 389. This took place *in the open ground*, at Woodville, near Salcombe, Devonshire, the residence of the late JAMES YATES, Esq., and considering that the plant is a native of South America, more especially within the tropics, it tells more for the mildness of that part of England, than any circumstance that could be mentioned. The *Aloe* was planted in 1804, when it was only about six inches high, and then two or three years old, within a few yards of the sea-shore, yet elevated forty or fifty feet above the level of the water, where it never had any cover, shelter, manure, or cultivation. In 1812, it was more than five feet high, and it grew during that summer, nearly the eighth of an inch daily. In 1820 it measured between ten and eleven feet in height, and covered a space, the diameter of which was sixteen feet; its leaves, close to the stem, being nearly nine inches thick. In the beginning of June of that year, a stem made its appearance, resembling a head of Asparagus, of immense size, which, during six weeks grew at the rate of three inches a-day, and then gradually diminished in progress; but not till it had attained the elevation of twenty-seven feet from the ground, which was at about the middle of September. The two lowest branches first showed flowers on the 3d of September, and others came out in succession from the beginning of October to the end of November, when they all began to lose their colour and to decay. There were upwards of forty flowering bunches, each with between three and four hundred flowers, making in all above sixteen thousand blossoms. As the stem grew, the leaves began to wither; and it appears the plant then died." "Its age was twenty-one years: the height from the earth when in blossom twenty-seven feet: the lateral branches, beginning at twelve feet from the ground, were in number forty-two, the lowest projecting two feet from the stem, and gradually diminishing to about a foot or nine inches in length at the top: the stalk where the side branches commenced was twenty inches round, or near seven inches in diameter, gradually tapering to the apex: the bunches of flowers (or at least those next the bottom) were from a foot to fourteen inches in breadth."

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Although various instances are on record of this plant having blossomed when confined in a pot or tub, and sheltered from the severity of our climate, yet the occurrence is so rare, as to excite a great deal of interest in the neighbourhood where such an event takes place; and I know not whether the variegated-leaved variety, which is not uncommon in collections, blossoms with equal readiness; not having myself heard of the flowering of that kind, till that which is here represented threw up its flowering stem in the summer of 1836, at Aiken Head, the seat of Mrs. Gordon, where, the garden is under the management of Mr. Lambie. In this instance, the whole height of the flower-stalk, was only the half of that of Mr. Yates: and the blossoms were few indeed in comparison; yet they came to great perfection, and the plant made a very noble appearance.

But the great size and strange form of this plant, and the rarity of its blossoming in our collections, are not the only circumstances which recommend the *American Aloe* to attention. It yields a drink, and a fibre of such extensive use in the New World, that it is reckoned, next to the Maize and the Potato, the most valuable of all the products which nature has lavished on the mountain-population of æquinoctial America: and no where perhaps is it held in greater esteem than Mexico, according to M. de Humboldt, from whose "Essai politique sur la Royaume de la Nouvelle Espagne," I extract the following interesting particulars, bearing on this subject.

"Scarcely," says this distinguished Philosopher, "does there exist a tribe of savages in the world, who are not acquainted with the art of preparing some kind of vegetable drink. The wretched hordes which wander in the forests of Guiana, extract from the fruits of different Palms, a beverage, which is as palatable as the European orgeat. The inhabitants of Easter Island, confined to a mass of barren, springless rocks, mingle the expressed juice of the Sugar Cane with the briny water of the sea. Most civilized nations derive their drink from the same plants as afford them food, and whose roots and seeds contain the saccharine principle mingled with the farinaceous. In Southern and Eastern Asia this is *Rice*; in Africa and Australia the roots of *Ferns*, and of some *Arums*; while in the North of Europe, the *Cerealia* afford both bread and fermented liquors. Few are the instances of certain plants being cultivated solely with a view to extract beverages from them. Vineyards only exist west of the Indus; in the Old World, and in the golden age of Greece, the culture of the Grape was confined to the countries lying between the Oxus and the Euphrates, in Asia Minor, and in Western Europe. In other parts of the world, nature certainly produces several species of *Wild Vine*; but no where has man attempted to collect them around them, and improve their quality by cultivation.

"The New Continent presents the instance of a people who derived their drinks not only from the farinaceous and sugary substance of *Maize*, *Manioc*, and *Bananas*, or from the pulp of some species of Mimosa, but who cultivated a plant of the *Pine Apple* family for the express purpose of converting its juice into a spirituous liquor. In the vast plains in the interior of Mexico, there are large tracts of country where the eye discerns nothing but fields planted with the *Pittes* or *Maguay* (Agave *Americana*). This plant, with its leathery and thorny leaves, and which, with the Cactus *Opuntia*, has become naturalized

naturalized ever since the sixteenth century, throughout Southern Europe, in the Canary Islands, and on the African coasts, imparts a most peculiar character to the Mexican landscape. What can be more strongly contrasted than a field of yellow *Wheat*, a plantation of the glaucous AGAVE, and a grove of *Bananas*, whose lustrous leaves always preserve their own tender and delicate hue of green! Thus does man, in all latitudes, by introducing and multiplying the various vegetable productions, modify at his pleasure the aspect of the country around him!

"In the Spanish colonies there are several sorts of *Maguay* deserving of careful cultivation; some indeed, which, by the length of the stamens, the mode of division of the corolla, and form of the stigma, may, perhaps, belong to separate genera. The *Maguay* or *Metl*, which is grown in Mexico, consists of several varieties of the *American Aloe* (AGAVE *Americana*), so common in gardens, which has yellow, fascicled, and straight flowers, with stamens twice as long as the divisions of the corolla. This must not be confounded with the A. *Cubensis* of JACQUIN, (A. *Mexicana*, LAMARCK, A. *odorata*, PERSOON,) which has been erroneously supposed to be the *Metl* or *Maguay* of Mexico, but which is extensively grown in the Caraccas, where it is called *Maguay de Cocuy*.

"These plantations extend wherever the Aztèque language is spoken; they cease to the north of Salamanca, and are seen in the greatest luxuriance in the valley of Toluca and the plains of Cholula. There the AGAVE plants are set in rows, distant fifteen decimètres from one another. The juice or sap, commonly called the *honey*, from its abundant sweetness, is only afforded when the flowering-stem is about to appear, so that it is of great importance to the cultivator to ascertain precisely this period. Its approach is indicated by the direction of the root-leaves, which the Indian always watches and examines with great attention, and which, formerly recurved, suddenly take an upward direction, and approximate as if to enclose the incipient flower-stalk. The bunch of central leaves (corazon, the *heart*,) next assumes a livelier green, and lengthens considerably; indications which the natives assure me hardly ever fail, and to which may be added several other less striking appearances in the general aspect of the plant. Daily does the cultivator examine his AGAVE plantations, to watch those individuals which promise to bloom, and if he himself entertains any doubt, he appeals to the village sages, the old Indians, whose long experience gives them an unerring precision both of touch and eye.

"At eight years old, or thereabouts, the Mexican AGAVE generally shows signs of inflorescence, and then the collection of the juice for making *Pulque* begins. The bunch of central leaves, or *corazon*, is cut through, the incision gradually enlarged and covered by the side leaves, which are raised up and tied together at their tips. In this cleft the sap of those parts which were destined to form and nourish the gigantic flowering-stem is deposited, and this vegetable spring flows for two or three months, and may be tapped three times a day. The quantity of sap is enormous; and the more surprising, as the AGAVE plantations are always made by choice on the most sterile soil, frequently on mere shelves of rock, scantily covered with vegetable earth. Each plant is calculated to yield about one hundred and fifty bottles; and at Pachuca, the value of a *Maguay*, near flowering, is from twenty to twenty-five francs,

francs, or five piastres. Still, as with the Vine, which may bear a greater or less quantity of grapes, the produce is apt to vary, and cannot be precisely calculated. Instances have, however, been known, of a parent bequeathing a plantation of *Maguay* worth from seventy to eighty thousand piastres.

"The cultivation of the AGAVE is attended with many real advantages above that of *Maize*, *Wheat*, or *Potatoes*, as this sturdy, harsh, and fleshy-leaved plant is uninjured by the occasional drought, frost, and excessive cold, which prevail in winter on the lofty Cordilleras of Mexico. It dies after having flowered, or when the central bunch of leaves is cut away, and then a number of suckers spring from the parent root, which increase the plant with extraordinary rapidity. One acre of ground will contain from twelve to thirteen hundred plants of *Maguay*, of which it may be calculated that one in every thirteen or fourteen is always affording the honey. Thus the proprietor who sets from thirty to forty thousand *Maguays* is sure of leaving his family rich; though a man must possess patience and resolution to devote himself to cultivating what only becomes productive after an interval of fifteen years. In good soil, the AGAVE blossoms at the end of five years; while in poor ground nothing can be expected under eighteen years; and any artificial means by which the flowering state is unnaturally accelerated, only destroy the plant prematurely, or materially lessen the amount of sap.

"The *honey*, or juice, is of an agreeably bitter-sweet flavour, and ferments readily from the sugar and mucilage with which it abounds, this process being hastened by the addition of some old and acid *pulque*. This vinous liquor resembles cider, but diffuses a disgusting smell of decayed meat, which Europeans have some difficulty in overcoming. Those, however, who have accustomed themselves to the beverage, consider it as strengthening, stomachic, and particularly nutritive, recommending it, peculiarly, to persons of a very meagre habit; and I have seen many whites, who, totally discontinuing water, beer, and wine, drink only the *Pulque*, like so many Mexicans. The cause of the fetid smell of this liquor is variously attributed to the mode of preparation, the manure used for the soil, and the different materials in which the fermentation is carried on; and I only regret, that I was unable, for want of proper apparatus, to ascertain this curious point in vegetable chemistry. By distillation, a most intoxicating spirit is obtained from *Pulque*, which is called *Mexical*, or *Aguardiente* (Fire-water) *of Maguay*. The plant which is preferred for this purpose, appeared to me smaller, and its foliage more glaucous than the common kind; but not having seen it in blossom, I cannot pronounce it to be specifically distinct.

"But not only is the AGAVE the Mexican Vine, but it holds the place of Asiatic Hemp and the *Egyptian Paper-Reed*, (CYPERUS *Papyrus*). The antient manuscripts of this country consisted of hieroglyphics, often inscribed on a paper made of numerous layers of the AGAVE leaf, macerated in water, and glued together in the same manner as the pith of *papyrus* and the bark of the *Paper Mulberry* (BROUSSONETIA) of the Pacific Isles. I brought away many antient specimens of this fabric, some as thick as pasteboard, others as thin as fine India paper, which are the more interesting, as all the Mexican records hitherto discovered and still preserved at Rome and in Spain, are inscribed on the skins of the Mexican Deer. No thread is so much prized by physicians in

Europe

Europe as that which is extracted from AGAVE leaves, which are sometimes ten feet long, fifteen inches wide and eight thick, because it is not liable to twist; though the fibre of the New Zealand Flax (PHORMIUM *tenax*) excels it in tenacity. Twine, thread, and rope are made of it; the latter is employed in the mines, and, on the western coast, for rigging the ships. The common juice of the plant, or that which it yields when not about to blossom, is highly caustic, and useful for cleansing wounds; while the thorny points of the leaves, like those of the CACTUS, used to serve the Indians for nails and needles. The Mexican priests were accustomed to inflict wounds in that manner on their breasts and arms by way of expiation, as do the Buddhists in Hindostan."

Rarely as the *American Aloe* blossoms in this part of Europe, a friend of mine, who lately visited the shores of the Mediterranean in the North of Spain, tells me, that the brown withered flowering stems often stand there as tall, strong, and thick as the masts of small vessels in a harbour, and are sometimes used for thatching. The height of this stalk varies from twenty to forty feet, and expands like a rich candelabrum, its arms clustered with golden yellow flowers. An extract from the foliage, when made into balls, will lather water like soap; and, finally, the centre of the flower-stalk cut longitudinally is by no means a bad substitute for the European razor-strop, owing to minute particles of silex forming one of its constituents, in the same way as the *Dutch Rushes*, or stems of the *Horsetail* (EQUISETUM) are employed to polish ivory and brass. My friend, WILLIAM CHRISTY, Esq., when writing from Guernsey last autumn (1837) says, " in this delightful climate, an AGAVE *Americana* is just coming into flower, in the street of St. Pierre Port. It is twenty-five years old, and already thirty feet high; and has always stood in the open air, summer and winter, without any protection."

DESCR. *Leaves* radical, imbricated at the base, spreading on all sides, sword-shaped, rigid, flat or slightly grooved above, convex beneath, very acute, glaucous-green, sometimes, as in our variety, bordered with yellow, the margin toothed with short, strong spines, mucronate at the point: they are from four to six feet long. *Scape* from twelve (in our specimen) to twenty and even forty feet high, erect, bearing a panicle of innumerable flowers in dense clusters. *Perianth* yellow-green, the *tube* for the greater part of its length incorporated with the germen, above which is a constriction: *limb* deeply cut into six linear-oblong, erect, obtuse segments. *Filaments* inserted on the short, free portion of the tube, just below the segments, and opposite to them; subulate, much exserted, a little compressed. *Anthers* linear, versatile, deep yellow. *Style* filiform, sometimes about as long as the stamens, sometimes much shorter than they are: *Stigma* capitate, three-lobed: *Germen* obscurely triquetrous, three-celled, the cells many-ovuled.

The principal figure represents the AGAVE *Americana* from the garden at Aiken Head, reduced one twenty-fourth part of the ***nat. size.***—Fig. 1. A Flower. 2. The same laid open. 3. Germen cut through transversely: of the ***nat. size.***

Thos Nuttall Esq.del. Pubd by S. Curtis Glazenwood Essex May 1. 1838 Swan Sc

DIPLÁCUS PUNÍCEUS. SCARLET-FLOWERED DIPLACUS.

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Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—SCROPHULARINEÆ.)

Generic Character.

Cal. prismaticus apice 5-fidus. *Corolla* ringens, 5-fida, lobis subæqualibus plerumque emarginatis. *Stigma* bilamellatum. *Capsula* lineari-oblonga, bilocularis. *Placenta* (s. receptaculum seminis) lata, demum bipartita, adnata. *Semina* utrinque subulata.—Frutices *Californicæ*, Mimulo *proximæ*. Folia *opposita plerumque viscosa*. *Nutt. MSS.*

Specific Character and Synonym.

DIPLACUS *puniceus* ;* fruticosus viscosus glaber, foliis lineari-lanceolatis subconnatis vix serrulatis acutiusculis, calycinis laciniis inæqualibus acuminatis, corolla punicea lobise marginatis, caule elato ramosissimo. *Nutt. MSS.*

DIPLACUS puniceus. *Nutt. MSS.*

"A very elegant *shrub*, flourishing in its native soil nearly the whole year. Like the other species of this Genus it has altogether the habit of a MIMULUS ; and one of them has, indeed, long been known under the name of MIMULUS *glutinosus*. The present species is a far taller-growing plant than that, and much more of a true shrub. The leaves are of a deep green, narrow-lanceolate and somewhat acute. The stems and calyx have a purplish hue, and the corolla, considerably exserted, is of a deep velvety scarlet, with shades of pink lake, and its lobes are constantly emarginate. It

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* The name δις, *two*, and πλαχος, *placenta*, alludes to the splitting of the capsule, to each valve of which is attached a large placenta, and under its edges are found the slender subulate seeds.—*Nutt.*

"It inhabits sandy loam by the borders of small winter streams, attaining commonly the height of a man, growing near St. Diego in Upper California, and flowering in April and May. In cultivation, it continues to bloom apparently all the year."

We need offer no apology for departing from our accustomed practice, and figuring a new and handsome plant from the pencil of Mr. Nuttall, which cannot yet have blossomed in the gardens of this country. It was discovered by the gentleman just mentioned during his late arduous western travels, and transported in 1836 to the garden of Mr. Buist, the extensive nurseryman of Philadelphia, by whom the whole stock was sent, in the autumn of last year, to Messrs. Lowe,* of Clapton, who are consequently the only possessors of it. It cannot fail to prove a great ornament to our gardens.

In the MSS. which accompanied this drawing, and which will be published in an early number of Mr. Taylor's "*Annals of Nat. History*," the following species (besides the *D. glutinosus*) are given:—

Diplacus *latifolius* (Nutt.); suffruticosus viscosus, foliis oblongis sublanceolatis obtusiusculis serrulatis subtus puberulis, pedunculis brevibus, calycibus glabris, laciniis inæqualibus acutis, corollæ lobis vix emarginatis latis.

Hab. About Monterrey, Upper California. *Fl.* April.

Diplacus *leptanthus* (Nutt.); fruticosus viscosus, foliis oblongo-lanceolatis acutiusculis subserrulatis glaberrimis, pedunculis brevissimis, calycibus glabris tubulosis elongatis, laciniis inæqualibus acutis brevibus, corollæ lobis latis oblique emarginatis.

Hab. California, Arch. Menzies, Esq. Described from specimens in the Herbarium of the Academy of Nat. Sciences of Philadelphia, which had been communicated by Sir Wm. Jackson Hooker to the late Dr. Schweinitz.

Diplacus *longiflorus* (Nutt.); suffruticosus viscosus pubescens, foliis lineari-lanceolatis utrinque attenuatis vix serrulatis margine revolutis supra glabris, pedunculis brevissimis, calycibus villosis, laciniis vix inæqualibus acutis, corollæ lobis latissimis oblique emarginatis.

Hab. Rocky places by small streams, in the vicinity of Santa Barbara, Upper California.

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* We regret to learn, however, from these gentlemen, that many of their plants have perished, owing to the extreme severity of the late winter. Previous to that season the plant showed itself to be of free growth and graceful habit.

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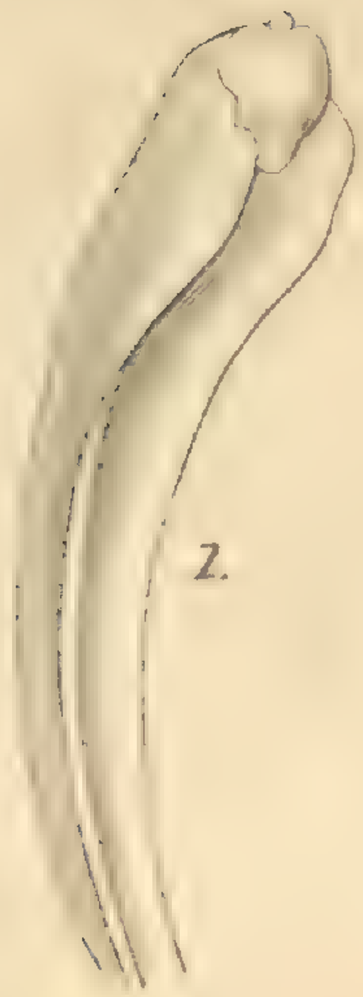

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Vrs Withers del!

Pub by S. Curtis Glazenwood Essex May 1. 1838.

Swan Sc.

Cattléya púmila. Dwarf Cattleya.

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Class and Order.

Gynandria Monandria.

(Nat. Ord.—Orchideæ.)

Generic Character.

Sepala membranacea v. carnosa, patentia, æqualia. *Petala* sæpiùs majora. *Labellum* cucullatum, columnam involvens, trilobum v. indivisum. *Columna* clavata, elongata, semiteres, marginata, cum labello articulata. *Anthera* carnosa 4-locularis, septorum marginibus membranaceis. *Pollinia* 4; caudiculis totidem replicatis.—Herbæ *epiphytæ, (Americanæ) pseudo-bulbosæ.* Folia *solitaria v. bina, coriacea.* Flores *terminales, speciosissimæ, sæpè e spatha magna erumpentes.*

Specific Name and Character.

Cattleya *pumila;* pseudo-bulbis oblongis minutis teretibus sulcatis unifoliatis unifloris, folio oblongo-lanceolato, sepalis oblongis acutis superiori recurvo petalis ovali-oblongis obtusis undulatis angustioribus, labelli lobo intermedio brevi obtuso undulato-laciniato.

The small size of this plant, the minute, rounded pseudo-bulbs and the narrow leaves, together with the obtuse, short, and almost fimbriated lip, will, I think, clearly distinguish this very beautiful species of Cattleya from those hitherto described. It was received from the Essequibo by John Allcard, Esq., in whose collection it flowered last year, and who kindly sent the well executed drawing here engraved, from the pencil of Mrs. Withers.

Descr. There is evidently a horizontal *stem*, or *rhizoma*, throwing out stout radicles below, and minute *pseudo-bulbs* above,

above, which latter are at first clothed with sheathing scales, and afterwards seem to enlarge, till on the falling away of the leaves they are two inches long and naked, always rounded and striated. *Leaf* solitary, terminal, coriaceous, four to five inches long, scarcely an inch broad, linear-oblong, nerveless. *Flowers* solitary, arising from a membranaceous sheath at the base of the leaf, drooping, of a beautiful blush-purple colour. *Sepals* spreading, oblong, the upper one reflexed. *Petals* larger and broader, waved at the margins. *Lip* large, three-lobed, the two lateral lobes involute, enclosing the *column* with the tube thus formed, the middle lobe short, reflexed, waved and crisped, almost laciniated.

Fig. 1. Column. 2. Anther-case. 3. Pollen-masses : *magnified.*

W. Fitch Del.t

Pub.d by S. Curtis Glazenwood Essex. May 1 1838

Swan Sc.

FÚNCKIA ALBO-MÁRGINATA. VARIEGATED FUNCKIA.

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Class and Order.

HEXANDRIA MONOGYNIA.

(Nat. Ord.—HEMEROCALLIDEÆ.)

Generic Character.

Corolla 6-partita, tubulosa, campanulata, limbo subringente, connivente, vel parum patente. *Stamina* fasciculata, basi limbi inserta, declinata. *Stylus* filiformis situ staminum. *Stigma* subtrigonum læve. *Capsula* oblonga, subprismatica, 6-sulca, bilocularis, bivalvis. *Semina* numerosa, depressa, membranaceo-alata: embryonibus pluribus. *Spr.*

Specific Name and Character.

FUNCKIA* *albo-marginata;* humilis, foliis ovato-lanceolatis albo-marginatis longe petiolatis scapo racemoso brevioribus, floribus declinatis infundibuliformibus remotis, bracteis omnibus æqualibus ovatis pedicello subduplo longioribus.

This interesting species of FUNCKIA was received from Belgium at the Glasgow Botanic Garden from Mr. M'COY, at the same time with the F. *Sieboldiana* to be figured in our next Number, t. 3663, and was in all probability introduced into Europe by the same Botanist, Dr. SIEBOLD, from Japan. But it came without any name, save that of "FUNCKIA sp. foliis marginatis," and I have no means of ascertaining

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* So named, I presume, in compliment to HENRY CHRISTOPHER FUNCK, an Apothecary of Gefreez, near Baireuth, and author of a beautiful "Taschenherbarium," or Pocket Herbarium of German Mosses, which was the model for that equally beautiful one of British Mosses, by Mr. GARDNER.

ascertaining whether it has been described by any author. It is quite different from the F. *Sieboldiana*, and still more so from the other known species, F. *Japonica* and F. *cærulea*. It has been treated with us as a greenhouse plant, flowering in July.

Descr. *Root?* *Leaves* all of them radical, petiolate, ovato-lanceolate, very acute, about seven-nerved, green, elegantly margined with white. *Petiole* longer than the leaf, grooved on the upper side. *Scape* racemose, longer than the leaves. *Raceme* of twelve to fourteen large, handsome, declinate *flowers*, lilac-purple streaked with white, and deeper purple lines. *Pedicels* short. *Bracteas* ovate, leafy, twice as long as the pedicels. *Perianth* funnel-shaped, the *tube* slender below, widening considerably at the mouth, and there forming a broad, slightly oblique limb, cut into six, oblong, acute lobes. *Stamens* declinate, curved upwards at the extremity, as long as the perianth. *Anthers* yellow.

3052.

Pub by S Curtis Glauenwood Essex May 1 1838

Epácris mícrophylla. Small-leaved Epacris.

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Class and Order.

Pentandria Monogynia.

(Nat. Ord.—Epacrideæ.)

Generic Character.

Calyx odoratus, multibracteatus, bracteis textura calycis. *Corolla* tubulosa, limbo imberbi. *Stamina* epipetala: *Antheris* supra medium peltatis. *Squamulæ* 5 hypogynæ. *Capsula* placentis columnæ centrali adnatis.—Fruticuli *ramosi, sæpius glabri.* Folia *sparsa petiolata v. basi simplici.* Flores *axillares, in spicam foliatam sæpius digesti, albi v. purpurascentes. Br.*

Specific Character and Synonym.

Epacris *microphylla;* calycis foliolis obtusiusculis, tubum corollæ æquantibus; foliis cordatis, acutis, pedunculum superantibus, lateribus erectis; spica apiciflora; ramulis pilosis. *Br.*

Epacris microphylla. *Br. Prodr. Flor. Nov. Holland,* 550.

We received this plant at the Botanic Garden, Edinburgh, in 1835, from Mr. Westland's Nursery, near Dorking, Surrey, where a large stock of scarce plants, and of Epacrideæ in particular, are cultivated with a very remarkable degree of success. It flowered in the greenhouse during the month of March.

Mr. Brown places this species next to E. *pulchella*, of which, were it not for his authority, I should certainly have considered it only a variety. I do not find the difference in the form of the calyx-segments, nor of the leaves, which

Mr.

Mr. Brown observes, and would rest the chief distinction on the more slender, less tortuous, branches of E. *microphylla*, the hairiness of the young shoots, the shortness of the peduncles in relation to the leaves, and in the pseudo-spikes being collected nearer the extremities of the branches.

Descr. *Shrub* erect; *branches* ascending, slender, tortuous, hairy. *Leaves* cordate, spreading, shining, rigid, sides folded forwards, base embracing the stem, middle bent back, apex ascending, acute. *Flowers* white, solitary in the axils of the leaves, collected into subterminal *pseudo-spikes*, on *peduncles* shorter than the leaves. *Calyx-leaflets* oblong, blunt, white. *Corolla* white; *tube* campanulate, equal to the calyx, nectariferous; *limb* five-parted, segments ovate, blunt, spreading. *Stamens* alternating with the segments of the corolla. *Filaments* adhering to the tube, the free portion erect, shorter than the limb. *Anthers* bilocular, bursting along the face. *Germen* spheroid, with a short *style* rising from the depressed apex, and supporting a *stigma* of five erect, blunt lobes. *Graham.*

Fig. 1. Portion of Stamens and Leaves. 2. Single Leaf. 3. 4. Flowers: *magnified.*

1.

W. Fitch del. et lith.

Pub. by S. Curtis, Glazenwood, Essex, May 1, 1838.

Swan Sc

GESNÉRA FASCIÁLIS. GAPING-FLOWERED GESNERA.

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Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—GESNERACEÆ.)

Generic Character.

Calyx 5-partitus, (plerumque germini adnatus). *Cor.* tubulosa campanulata limbo bilabiato; labio superiore biinferiore trifido. *Stigma* bilobum. *Capsula* bilocularis, 2-valvis, placentis parietalibus.

Specific Character and Synonym.

GESNERA *fascialis;* herbacea, foliis subsessilibus cordatis oblongis acutis crenatis rugosis tomentosis, racemo terminali, bracteis ovatis acutis reflexis, corollis tomentosis, labio superiore oblongo bilobo basi angustato inferiore minimo revoluto fauce latissima truncata.

GESNERA fascialis. *Lindl. Bot. Reg. t.* 1785.

Professor LINDLEY, who figured and described this species from a plant that flowered in the collection of the Hon. and Rev. WILLIAM HERBERT of Spofforth, rightly judged that it was a native of Brazil: Mr. GARDNER having since sent roots of it from the neighbourhood of Rio Janeiro to his subscribers: and from one of these, the plant here figured was raised at the Glasgow Botanic Garden in 1837. It produced its truly splendid blossoms in July of the same year; and the species may certainly be reckoned among the most beautiful of this handsome Genus.

DESCR. *Root* tuberous. *Plant* every where downy. *Stem* erect, a foot to a foot and a half high, erect. *Leaves* opposite, sessile, cordate, much wrinkled and reticulate, rather obtuse,

obtuse, coarsely serrated. *Raceme* terminal, the *pedicels* opposite, or in whorls. *Calyx* short, cut into five deep, subulate segments, leaving scarcely any tube. *Corollas* large, handsome, of a rich velvety scarlet, tubular, two-lipped, the mouth oblique, exceedingly large; upper lip oval, convex, retuse, porrected; lower lip reduced to a small, reflexed lobe, white within, clouded with dark purple. *Filaments* nearly as long as the whole corolla. *Anthers* yellow. *Style* equal in length with the stamens.

Fig. 1. Calyx and Pistil: *magnified.*

Pub. by S. Curtis. Glazenwood. Essex. May 1. 1838.

GOVÉNIA GARDNÉRI. MR. GARDNER'S BRAZILIAN GOVENIA.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Perianthium bilabiatum. *Sepala* lateralia falcata labello supposita, basi paululum connata, supremo paulò majori. *Petala* sub sepalo supremo conniventia, breviora, obliqua. *Labellum* integerrimum, ecalcaratum, concavum, cum basi parum productâ columnæ articulatum, sessile. *Columna* basi paulò producta, teres, subfusiformis, apice utrinque marginata. *Anthera* calyptriformis, 1-locularis. *Pollinia* 4, solida, incumbentia, caudiculâ brevi, glandulâ minore triangulari.—*Terrestris*. Folia *plicata*. Spicæ *radicales*, *multifloræ*. Flores *speciosi*.

Specific Character and Synonyms.

GOVENIA *Gardneri;* foliis elliptico-lanceolatis membranaceis plicatis solitariis v. binis petiolatis, petiolis scapoque vaginatis, petalis sepaloque superiori concavis conniventibus galeam formantibus, petalis lateralibus porrectis, labello late oblongo recurvato apiculato medio bituberculato, apice glandulifero.

ORCHIDEA. *Gardn. Pl. Exsic. Bras. n.* 670.

The Genus GOVENIA, so named in compliment to Mr. JAMES ROBERT GOWEN, of the High Clere Gardens, was established on a Mexican plant, and two other species have been published also by Professor LINDLEY, (Bot. Reg. see sub fol. 1795, GOVENIA *capitata*, and N. S. t. 13, GOVENIA *liliacea*,) equally inhabitants of Mexico. It has been

Mr.

Mr. Gardner's good fortune to discover a fourth species, the one here figured, inhabiting the Organ Mountains, and which has been by him sent to the Contributors towards the cost of his expedition, both in a living and dried state. It seems to grow very freely; for the roots only arrived in July, and in the latter end of December the flowers and bright green foliage, sheathed at the base with purple membranes, were in perfection in the stove of the Glasgow Botanic Garden. It certainly is a very interesting plant, though perhaps less showy than the Mexican ones figured by Professor Lindley.

Descr. Terrestrial. The *leaves*, solitary or two together, springing from the top of the root on long, broad *petioles*, are of an elliptical-lanceolate figure, acute, membranous, striated and plaited, slightly waved; the petioles, for their whole length, clothed with large, cylindraceous, purple membranes as thick as one's finger. From the same sheath the *peduncle* or *scape* arises, nearly a foot in height, (about as tall as the leaves), purple, sheathed with purple bracteas, and terminating in a raceme of large, nearly white, almost globose, or rather hemispherical *flowers*, convex above, plane below. *Sepals* and *petals* oblong or broadly lanceolate, the latter and upper *sepal* connivent, concave, and forming a helmet over the column and lip, while the two lower sepals almost united at the base under the lip are patent and slightly falcate; *lip* articulated by a very short claw, closely applied to the column, broadly oblong, the upper half bent back, with a recurved mucro at the point: on the disk are two oblong *tubercles*, and on the margin towards the point, three distinct glands. *Column* semiterete, the base extended, slightly glandular, winged, the wings standing forward, very broad upwards. *Anther-case* hemispherical, with a large mucro. *Pollen-masses* four, in two pairs, connected by a gland. *Germen* clavate, with a membranous bractea at the base of each.

Fig. 1. Flower 2. Column and Lip. 3. Column. 4. Lip. 5. Pollen-masses: *magnified*.

2.

1.

W.Fitch. del.t

Pub. by S. Curtis, Glazenwood Essex, June 1. 1888.

PENTSTÉMON GENTIANOÍDES. GENTIAN-LIKE PENTSTEMON.

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Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—SCROPHULARINEÆ.)

Generic Character.

Cal. pentaphyllus aut quinquepartitus, bractea solitaria distante. *Corolla* ventricosa bilabiata. *Stamina* didynama, rudimento quinti filiformi sæpius barbato. *Antheræ* sejunctæ, sæpius glabræ. *Capsula* ovata, bilocularis, bivalvis, polysperma. *Semina* angulata.—Herbæ v. suffrutices, *Americanæ vel Orientali-Asiaticæ.* Folia *lævia acuminata, sæpius serrata.* Flores *paniculato-racemosi, purpurei, rosei, albidive. Lindl.*

Specific Character and Synonyms.

PENTSTEMON *gentianoides;* caule elato, foliis lanceolatis integerrimis glaberrimis, superioribus brevioribus latioribus acutissimis, panicula elongata laxa foliosa, pedunculis elongatis subumbelliferis, laciniis calycinis late ovatis, corollæ lobis acutis, stamine sterili apice paululum hirsuto.

PENTSTEMON gentianoides. *Lindl. in Bot. Reg. N. S. t. 3.*

CHELONE gentianoides. *Humb. et Kunth, Nov. Gen. et Sp. Pl. v. 2. p. 292. t. 172.*

A native of Mexico, but of cold situations on the sloping sides of the mountain of Toluco, (whose summit is covered with perpetual snow,) at an elevation of 11,500 feet above the level of the sea, where it was discovered by the distinguished travellers HUMBOLDT and BONPLAND. As may be expected, it proves hardy with us, and even in the climate of Scotland the summer is sufficient to bring the plant

plant to a high degree of perfection. In the Glasgow Garden it attained a height of four feet in the open border, and its handsome flowers continued in beauty during a great part of the summer and autumn. Professor LINDLEY observes that the cuttings strike freely, by which the plant may be increased as well as by seeds.

DESCR. *Root* perennial. *Stem* three to four feet high, erect, branched upwards, glabrous, dark purple. *Leaves* opposite, lanceolate, spreading horizontally, sessile, quite glabrous and entire, the upper ones are broader, that is, ovate and sharply acuminated, becoming gradually smaller, so that the uppermost may be considered bracteas. The upper part of the plant may be regarded as a large *panicle*, the *peduncles* being opposite, much elongated, and bearing umbels of three to five or six large handsome *flowers*. *Calyx* deeply cut into five broadly ovate, acute segments, green, tipped with purple. *Corollas* drooping, rich, dark, reddish-purple: the *tube* slightly curved, narrow at the base, gradually enlarging upwards, so as to be subcampanulate; the *limb* two-lipped, within white, streaked with dark purple veins, the upper lip two-, the lower three-lobed; all the lobes ovate, acute. *Stamens* and *style* as long as the tube. *Anthers* two-lobed, dark purple: *barren filaments* enlarged upwards, with a fringe of a few hairs at the extremity. *Germen* ovate, green: *Style* purplish: *Stigma* obtuse.

Fig. 1. Calyx and part of the Corolla, with the four Stamens, abortive Filament and Pistil: *magnified*.

Pubby S.Curtis Glazenwood Essex June 1. 1838

CENTAURÉA DEPRÉSSA. PROSTRATE CENTAURY.

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Class and Order.

SYNGENESIA FRUSTRANEA.

(Nat. Ord.—COMPOSITÆ.)

Generic Character.

Anthodium ventricosum, ovatum, imbricatum, squamis inermibus vel spinosis. *Receptaculum* setosum. *Hilum* laterale ad basin. *Flosculi radiales* neutri tubulosi. *Pappus* setaceus annulo caducus.

Specific Character and Synonymns.

CENTAUREA (Sect. CYANUS, *D C.*) *depressa;* caule e basi ramoso declinato aut simplici erecto foliisque albo-tomentosis, caulinis oblongis basi obtusis sessilibus integerrimis, infimis subdentatis, fructus umbilico barbigero, pappo fructus longitudine æquali. *D C.*

CENTAUREA depressa. *M. Bieb. Fl. Tauc. Cauc. v. 2. p.* 346. *De Cand. Prodr. v.* 6. *p.* 578. *Spreng. Syst. Veget. v.* 3. *p.* 339.

CENTAUREA pygmæa. *Hoffm. Hort. Mosc.* 1808. *n.* 783.

Allied to the well-known "*Corn Blue-bottle*" of our fields, but a plant of much humbler growth, and far brighter-coloured flowers: indeed, we doubt if any species of this extensive Genus presents more lively blossoms than the one now before us, an inhabitant of dry hilly places of Iberia, and of the Province of Aberdeischan in Persia. It succeeds, however, in the open border with us, flowering in August in the Glasgow Botanic Garden, where it was raised from seeds sent by Dr. FISCHER.

DESCR. *Root* elongated, slender, annual. *Stems*, in the native specimen, not more than a span long, in our cultivated

vated ones, eight or ten inches, decumbent and branched at the base, there erect, green, but clothed with a whitish down as is the whole plant, giving the latter a silvery, or hoary appearance. *Leaves* alternate, sessile, linear-lanceolate, acute, in our specimens entire, not decurrent, single-nerved. *Flowers* large, handsome, solitary on the copious branches, terminal. *Involucre* ovato-globose, with very closely imbricated scales, beautifully fringed with white hairs. *Florets* of the *centre* tubular, deep red-purple, broad above, with five long, unequal teeth, below much narrower and white. *Anthers* long, protruded, black. *Germen* oblong, crowned with a hairy *pappus* of about the same length. *Florets* of the *ray* considerably longer than those of the centre, neuter; the *tube* very slender, reddish, white below; the *limb* very large, campanulate, deep blue, two-lipped, the lower lip smaller, bifid, the upper large quadrifid, the segments ovate, somewhat acute.

Fig. 1. Floret of the Ray. 2. Ditto of the Disk: *magnified.*

W. Fitch del.t

Pub. by S Curtis Glazenwood Essex

Fúnckia Sieboldiana. Dr. Siebold's Funckia.

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Class and Order.

Hexandria Monogynia.

(Nat. Ord.—Hemerocallideæ.)

Generic Character.

Corolla 6-partita, tubulosa, campanulata, limbo subringente, connivente, vel parum patente. *Stamina* fasciculata, basi limbi inserta, declinata. *Stylus* filiformis situ staminum. *Stigma* subtrigonum læve. *Capsula* oblonga, subprismatica, 6-sulca, bilocularis, bivalvis. *Semina* numerosa, depressa, membranaceo-alata: embryonibus pluribus. *Spr.*

Specific Character and Synonym.

Funckia *Sieboldiana;* humilis, foliis ovatis acuminatis inferne in petiolum vaginatum decurrentibus scapo racemoso subdimidio brevioribus, floribus nutantibus infundibuliformibus remotis, bracteis lanceolatis infimis flore longioribus superne sensim minoribus.

Funckia Sieboldiana. *Lodd. Bot. Reg. t.* 1869.

Hemerocallis *Japonica* (Bot. Mag. t. 1433.) and H. *cærulea* (Bot. Mag. t. 894.) constitute a distinct group in that Genus which Sprengel has separated, and to which he has given the name of Funckia. The present is a species belonging to that Genus, for a knowledge of which we are indebted to Dr. Siebold, the celebrated Japanese Traveller, who found it in Japan, and introduced it to the gardens in Belgium, whence it was received by Mr. Murray at the Glasgow Botanic Garden from Mr. M'Coy. It flowers in the greenhouse in July.

Descr. *Leaves* all radical, ovate, acuminate, striated, below tapering into a sheathing petiole. *Scape* scarcely a foot

foot high, rounded, bearing a *raceme* of large nodding *flowers*, of a white colour, slightly tinged with purple and green, remote when fully expanded. *Pedicels* short, curved. *Bracteas* lanceolate, the lower ones longer than the flower, the upper ones gradually smaller, and broader in proportion to their length. *Perianth* funnel-shaped, its tube straight and about as long as the campanulate *limb*, segments ovate, striated. *Stamens* inserted at the very base of the perianth beneath the germen, and equal with it in length, curved upwards at the apex; *Anthers* inserted by the middle of the back, two-celled; *pollen* yellow. *Germen* oval, with three furrows, small; *Style* rather longer than the stamens, and like them curved upwards at the extremity, filiform; *Stigma* capitate, hairy, obscurely three-lobed.

GESNERA TUBEROSA. TUBEROUS-ROOTED GESNERA.

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Class and Order.

DIDYNAMIA GYMNOSPERMIA.

(Nat. Ord.—GESNERACEÆ.)

Generic Character.

Calyx 5-partitus, (plerumque germini adnatus.) *Corolla* tubuloso-campanulata, limbo bilabiato; labio superiore bi-inferiore trifido. *Stigma* bilobum. *Capsula* bilocularis, 2-valvis, placentis parietalibus.

Specific Character and Synonyms.

GESNERA *tuberosa;* radice tuberosa subrotunda, caulibus perbrevibus tuberiformibus, foliis subradicalibus late ovatis serratis molliter pubescentibus, pedunculis numerosis erectis 1—3-floris, corollæ tubo paululum curvato limbo 4-fido subæquali, glandulis hypogynis posticis binis.

GESNERA tuberosa. *Mart. Nov. Gen. et Sp. Bras. v. 3. p. 29. t. 212.*

GESNERA rupestris. *Graham in Ed. Phil. Journ. Dec.* 1837.

For the introduction of this very remarkable species of GESNERA to the British stoves we are indebted to Dr. GRAHAM, who received it from the Berlin Garden in 1834, but under the name of "G. *rupestris*, MART.:"—by mistake, as I should presume: for it is assuredly the G. *tuberosa* of MARTIUS above quoted. It flowers readily in the stove during the autumnal months.

DESCR. *Tuber* flattened. *Stem* scarcely any, supporting two opposite, round, pubescent petioles, twice as long as itself. *Leaves* (eight inches long, six and a half broad) ovate,

ovate, peltate, minutely glanduloso-pubescent, strongly nerved, bullate, unequally crenato-dentate, concave and dark above, paler below; *corymbs* subradical, pedicels (two to two and a half inches long) erect, very slender, glanduloso-hairy, opposite, decussating, rising from the axil of a linear bractea. *Flowers* deflected outwards. *Calyx* glanduloso-pubescent, five-cleft; tube fleshy, adherent, teeth subulate, connivent after the corolla falls. *Corolla* (an inch and a quarter long) tubular, curved; *limb*, of five subequal, rounded, short segments, of which the two upper are rather the smallest, and least deeply divided. *Stamens* four, perfect, slightly exserted; *filaments* glabrous; *anthers* dark, rounded, two-lobular, bursting along the face of the cells, connectivum rounded; *pollen* yellow, *granules* minute; one, sometimes two rudimental stamens on the upper side of the tube at its base. *Disk* white, projecting on the upper side, emarginate. *Germen* half immersed in the calyx-tube, above conical, slightly pubescent, brown. *Ovules* numerous. *Style* nearly as long as the stamens, slightly pubescent, colourless. *Stigma* bilobular, *lobes* short. *Graham.*

Fig. 1. Pistil: *magnified.*

Ipomæa Bonariénsis. Buenos-Ayres Ipomæa.

Class and Order.

Pentandria Monogynia.

(Nat. Ord.—Convolvulaceæ.)

Generic Character.

Calyx 5-partitus, nudus. *Corolla* campanulata v. infundibuliformis, 5-plicata. *Ovarium* 2—3-loculare, loculis dispermis. *Stylus* indivisus. *Stigma* capitatum, 2—3-lobum. *Capsula* 2—3-locularis.—Herbæ *volubiles, quandoque erectæ.* Folia *indivisa* v. *lobata, nunc pinnatifida.* Semina *in quibusdam comosa. Br.*

Specific Name and Character.

Ipomæa *Bonariensis ;* volubilis pubescenti-subtomentosa, foliis petiolatis cordatis (sinu profundo) 3-lobis, lobis valde inæqualibus lato-oblongis obtusis, inferioribus basi rotundatis, pedunculis axillaribus solitariis folio sublongioribus apice corymbosis 5—7-floris, sepalis ovalibus concavis membranaceis obtusis glabris, corollæ infundibuliformi-subcampanulatæ limbo patenti lobis rotundatis undulatis.

Common on ditch-banks about Buenos-Ayres, according to Mr. Tweedie, who sent seeds of it to this country in 1826, and who observes that the plant has a large tuberous root. It thrives readily in the stove, bearing its handsome flowers in August, which are not much inferior in beauty to those of Ipomæa *insignis*.

Descr. *Stem* long, twining, branched, purple, clothed in the younger parts, as are the leaves, petioles, and pedunc-

cles, with short, but rather dense, stellated pubescence, or tomentum.

tomentum. *Leaves* cordate, petiolate, with a very deep sinus at the base, three to five-lobed in a palmated manner; the lobes very unequal, generally broadly-oblong, the lowest much rounded and dilated, as it were, at the base, occasioning the deep sinus between them, where the petiole is inserted. *Petiole* much shorter than the leaves, purple. *Peduncle* axillary, solitary, about as long as the leaf, flexuose, bearing a *corymb* of from five to seven *flowers*, purple, greener above, *pedicels* short, green, with a small bractea at their base. *Flower-buds* oval, obtuse. *Calyx* of five *leaves* or sepals, oval, erect, imbricated, concave, obtuse, glabrous, membranaceous. *Corolla* large, handsome, lilac-coloured, between funnel-shaped and campanulate: the *limb* spreading, of five large, rounded, waved lobes.

Pub. by S. Curtis. Glazenwood Essex June 1. 1838

EPIDENDRUM VIRIDI-PURPUREUM. PURPLISH-GREEN EPIDENDRUM.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Sepala patentia, subæqualia. *Petala* sepalis æqualia v. angustiora, rariùs latiora, patentia v. reflexa. *Labellum* cum marginibus columnæ omnino v. parte connatum, limbo integro v. diviso, disco sæpiùs calloso, costato, v. tuberculato; nunc in calcar productum ovario accretum et auriculum formans. *Columna* elongata: clinandrio marginato, sæpè fimbriato. *Anthera* carnosa, 2—4 locularis. *Pollinia* 4, caudiculis totidem replicatis annexa.—Herbæ *(Americana (epiphytæ, caule nunc apice v. basi pseudo-bulboso, nunc elongato apice folioso.* Folia *carnosa, rarissimè venis elevatis striata.* Flores *spicati, racemosi, corymbosi v. paniculati, terminales v. laterales.*

Specific Name and Character.

EPIDENDRUM *viridi-purpureum;* caule elongato simplici tereti basi incrassato vaginato, superne folioso, foliis distichis oblongo-ligulatis subdistichis, racemo denso subcapitato terminali, sepalis petalisque oblongo-obovatis, labello convexo latissime cordato trilobo, basi bituberculato, lobis lateralibus rotundatis, intermedio bifido laciniis divaricatis.

Although a native of Jamaica, one of the best explored of our possessions in the West Indies, I do not find that this is noticed by any botanical writer. Seventy-one species of this extensive Genus were defined by Dr. LINDLEY in his valuable "Genera and Species of Orchideous Plants," in

in 1831, and since that period many have been elsewhere described by him and other writers. The present was first known to us in the flowering state by Mr. Horsfall of Liverpool, who imported it from Jamaica, and it has since blossomed in the stove of the Glasgow Botanic Garden, having been sent there by Dr. M. Fadyen.

Descr. Like the rest of the Genus, it is an Epiphyte, and produces a *stem* about a foot and a half high, simply rounded, thickened at the base, and there clothed with membranaceous, pale-brown sheaths. *Leaves* from the upper part of the stem, subdistichous, oblongo-ligulate, carinated, coriaceous, bright green, nerveless. From the summit of the stems proceeds a *flower-stalk* four to five inches long, compressed, bearing two or three large, withered, brown, lanceolate, carinated, striated *bracteas*, and a drooping, dense *raceme*, or almost capitulum of flowers. *Sepals* and *petals* spreading, obovato-oblong, almost spathulate, rather acute, pale green, tinged with brown; the latter smaller. *Column* clubshaped, green slightly tinged with purple, bearing, at the apex below, the broadly cordate, very convex, fleshy, three-lobed *lip*, green, its broad disk purple, having two tubercles at the base: the lateral lobes are rounded, the intermediate or terminal one deeply cut into two spreading lobes.

Fig. 1. Flower from which the Sepals are removed: *magnified.*

RHODODENDRON NUDIFLORUM; *var.* scintillans (hybridum). SPARKLING RHODODENDRON.

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Class and Order.

DECANDRIA MONOGYNIA.

(Nat. Ord.—ERICEÆ.)

Generic Character.

Calyx 5-partitus. *Corolla* infundibuliformis 5-loba. *Stamina* 5—10, declinata: antheris apice biporosis. *Capsula* 5-locularis, 5-valvis, ab apice dehiscens, valvarum marginibus inflexis, dissepimenta formantibus. *Receptaculum* centrale, 5-angulare. *Semina* membrana involuta.

Specific Name and Synonyms.

RHODODENDRON (Azalea) *nudiflorum. Linn.—Curt. Bot. Mag. t.* 180.
Var. *hybrida,* scintillans.
AZALEA nudiflora; *var.* scintillans. *Lindl. Bot. Reg. t.* 1461.

The hybrid varieties of the AZALEA group of RHODODENDRON are almost endless, but few are more beautiful than the present, when growing vigorously, as was the case with the individual from which our figure was taken in the American border of the Glasgow Botanic Garden.

The origin of this variety, first reared by Mr. GOWEN, the gardener at High Clere, is thus given in his own words, in the Botanical Register. "This AZALEA was raised at High Clere in the same year with those already figured in previous parts of this work, and is a seedling from AZALEA *coccinea, (nudiflora,* var. *coccinea,) major,* impregnated by the pollen of AZALEA *Pontica.*

No where perhaps are the varieties of AZALEA, RHODODENDRON, and other choice American shrubs cultivated upon a larger scale, or more successfully, than in the Nursery of our friend Mr CURTIS at Glazenwood, where the present hybrid makes a very splendid appearance.

Curtis Glazenwood Lane July 1. 1838

Pyrus arbutifolia. Arbutus-leaved Aronia.

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Class and Order.

Icosandria Di-Pentagynia.

Generic Character.

Calyx tubus urceolatus, limbus 5-lobus. *Petala* subrotunda. *Styli* sæpiùs 5, rariùs 2—3. *Pomum* clausum 5-locularis putaminibus cartilagineis. *Semina* in loculo quoque 2, testâ cartilagineâ.—Arbores *fruticesve.* Folia *simplicia vel pinnata.* Cymæ *patentes terminales multifloræ.* Bracteæ *subulatæ deciduæ.*

Specific Character and Synonyms.

Pyrus *arbutifolia ;* foliis obovato-oblongis lanceolatisve crenato-serratis subtus pallidis reticulatim venosis costa supra glandulosa, floribus corymbosis. *Hook. Fl. Bor. Am. v.* 1. *p.* 204.

Var. α. rubra ; foliis subtùs (præcipue junioribus) calycibusque tomentosis, fructu rubro.

Pyrus arbutifolia. *Linn. fil. Suppl. p.* 256. *Pursh, Fl. Am. v.* 1. *p.* 339. *Bigel. Fl. Bost. ed.* 2. *p.* 195. *De Cand. Prodr. v.* 2. *p.* 637.

Cratægus pyrifolia. *Lam. Dict.*

Mespilus arbutifolia. *Linn. Sp. Pl. p.* 685.—*var.* erythrocarpa. *Mich. Am. v.* 1. *p.* 292.

Aronia arbutifolia. *Elliott, Carol. v.* 1. *p.* 356. *Torrey, Fl. of Un. St. v.* 1. *p.* 478.

Aronia pyrifolia. *Pers. Syn. Pl.*

Var. β. melanocarpa ; foliis calycibusque plerumque glabris, fructu nigro. *Willd. Sp. Pl. v.* 2. 1013.

Mespilus arbutifolia, β. *Mich. Am. v.* 1. *p.* 202.

Pyrus melanocarpa. *Willd. Enum. p.* 525. *De Cand. Prodr. v.* 2. *p.* 637. *Pursh, Fl. Am. v.* 1. *p.* 339.

Pyrus floribunda. *Lindl. Bot. Reg. t.* 1006.

Aronia arbutifolia β. *Torrey, Fl. of Un. St. v.* 1. *p.* 478.

Aronia melanocarpa. *Elliott, Carol. v.* 1. *p.* 557.

From

From all that can be learned from American authors, as well as from copious specimens I have received from various Botanists of that country, it does not appear that there is more than one species of the ADENORACHIS section of PYRUS, and that varying with red and black fruit. In the absence of the fruit, it seems impossible to distinguish these varieties; the tomentum which clothes the young leaves particularly being more or less deciduous; so that both states may be seen with glabrous or woolly foliage. Dr. LINDLEY's PYRUS *floribunda* is surely only the black-fruited kind, retaining the down on the foliage, and thus, as he observes, partaking of the character assigned to both respectively.

DESCR. Our plant forms a handsome *bush*, five to six feet high, copiously branched, the *branches* with dark brown, glossy *bark*, the young shoots green and downy. *Leaves* obovato-lanceolate, acute, finely serrated, almost sessile, reticulated with veins and with glands on the midrib, the young ones, especially beneath, and frequently in a more advanced stage, clothed with rather thick down; at length, often wholly glabrous. *Corymbs* copious on the short branches, about as large as those of the *White Thorn*. *Calyx* often tinged with bright red, and the *anthers* before bursting are of the same colour. *Petals* obovate, concave, slightly stained with blush.

W Fitch Delt.

Pub by. S Curtis Glaxenwood Essex Aug. 1838

CATTLEYA MOSSIÆ. MRS. MOSS'S SUPERB CATTLEYA. var: of C. labiata

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Sepala membranacea vel carnosa, patentia, æqualia. *Petala* sæpius majora. *Labellum* cucullatum, columnam involveus, trilobum vel indivisum. *Columna* clavata, elongata, semiteres, marginata, cum labello articulata. *Anthera* carnosa, 4-locularis, septorum marginibus membranaceis. *Pollinia* 4, caudiculis totidem replicatis.—Herbæ *epiphytæ, (Americanæ) pseudo-bulbosæ.* Folia *solitaria vel bina coriacea.* Flores *terminales, speciosissimi, sæpe e spatha magna erumpentes. Lindl.*

Specific Name and Character.

CATTLEYA *Mossiæ ;* caule elongato ramoso pseudo-bulbifero, pseudo-bulbis oblongis sulcatis, floribus giganteis speciocissimis, sepalis lanceolatis, petalis elliptico-ovatis unguiculatis marginibus oblique crispatis, labello latissimo obovato intus flavo oblique coccineo-striato, ungue in tubum superne acutissimum conduplicato, limbo bilobo pulcherrime crispato crenulato.

We wish our plate could do justice to this most magnificent of all Orchideous *plants*. The *flowers* are very considerably the largest yet known in any of this superb family ; the colour is equally striking, with which no art of the pencil can attempt to vie, and we may add that the fragrance is most powerful, resembling that of GYMNADENIA *conopsea*, but it is much stronger. The diameter of this splendid flower is, from the tip of the upper sepal to the tip of the labellum.

labellum, seven inches and a half; from tip to tip of the two opposite petals eight inches and a half! each petal being a little more than four inches long, and two inches and a half in breadth:—twenty-four inches in the circumference of the entire blossom!

I am indebted to the kindness of Mrs. Moss, of Otterspool, near Liverpool, for the noble specimen here figured, which was accompanied with a folio sketch of the entire plant from her pencil: and I know of no name more appropriate for it, as suggested by my friend Mr. Parker, than that of the lady in whose stove it has, by the care of her skilful gardener, Mr. James, been brought to such high perfection. This is the third lady* of Liverpool who has taken advantage of the commercial facilities of that flourishing town, and, by its intercourse with the New World, to import from thence its most beautiful botanical productions. The present plant was introduced through the medium of George Green, Esq., of Liverpool, in September, 1836, from La Guayra, a country which, were it probably investigated, would amply reward a Collector by many other novelties.

There is a general resemblance in the structure of the flowers of several of the purple-flowered Cattleyæ: but, independent of the gigantic size, the present species may be known, especially from C. *labiata*, its nearest affinity, by its elongated, branching stem, bearing many deeply sulcated pseudo-bulbs, by the much broader sepals and petals, which latter are unguiculated at the base, and by the colour and markings and size of the lamina of the labellum.

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* The two others, it needs hardly here be remarked, are Mrs. Horsfall and the late Mrs. Arnold Harrison.

Pub by S Curtis Swazenwood Essex Aug 1 1.1

RHODODENDRON ALBIFLORUM. WHITE-FLOWERED RHODODENDRON.

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Class and Order.

DECANDRIA MONOGYNIA.

(Nat. Ord.—ERICINEÆ.)

Generic Character.

Calyx 5-partitus. *Corolla* infundibuliformis 5-loba. *Stamina* 5—10, declinata: antheris apice biporosis. *Capsula* 5-locularis, 5-valvis, ab apice dehiscens, valvarum marginibus inflexis, dissepimenta formantibus. *Receptaculum* centrale. *Semina* membrana involuta.

Specific Character and Synonym.

RHODODENDRON *albiflorum;* erectum, foliis deciduis elliptico-lanceolatis integerrimis membranaceis glabris in apicibus ramorum, pedunculis fasciculatis, calycibus subfoliaceis hispidis, corollis albis rotato-campanulatis, staminibus 10 erectis inclusis æqualibus, filamentis basi barbatis.

RHODODENDRON albiflorum. *Hook. in Fl. Bor. Am. v. 2. p. 43. t. 133.*

This extremely interesting and distinct species of a very favourite genus was discovered by Mr. DRUMMOND in the alpine woods of the Rocky Mountains; and seeds which were sent by the officers of that expedition to Dr. GRAHAM produced plants, which have, at length, in July, 1837, produced their delicate cream-coloured blossoms.

DESCR. *Shrub* two to three feet high, erect, branched, with the *branches* upright, clothed with a dark brown, glabrous *bark*. The *leaves* are confined to the young shoots at the apices of the branches, and deciduous, elliptical-lanceolate, submembranaceous, shortly petiolate, entire, glabrous,

glabrous, penninerved, from an inch to an inch and a half long. *Stipules* ovate, membranaceous, brown, concave, early deciduous. *Peduncles* fascicled, rarely solitary, lateral and subterminal, about an inch long, recurved, slightly hispid. *Bracteas* resembling the stipules. *Flowers* drooping. *Calyx* large and deeply cut into five ovate, somewhat foliaceous, brownish-green, obtuse, slightly hairy segments. *Corolla* pure cream-white, twice as long as the calyx, rotato-campanulate, five-lobed, lobes obtuse, rounded. *Stamens* ten, hypogynous, shorter than the corolla. *Filaments* thick, bearded at the base, white. *Anthers* white, of two parallel cells, opening by a pore at the extremity. *Germen* ovate, 5-lobed. *Style* about as long as the stamens, hairy below. *Stigma* peltate, five-lobed.

Fig. 1. Calyx including the Pistil. 2. 3. Stamens:—*magnified.*

Pub. by S. Curtis, Botanical Magic Gar. Vaux Hall.

LOBELIA BRIDGESII. MR. BRIDGES' LOBELIA.

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Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—LOBELIACEÆ.)

Generic Character.

Corolla tubo hinc fisso (raro integro); *limbo* 5-partito. *Antheræ* connatæ. *Stigma* bilobum (nunc indivisum). *Capsula* bilocularis (raro trilocularis), apice supero bivalvi. —Herbæ *vel Suffrutices) pleræque lactescentes.* Folia *alterna, integra vel laciniata, raro fistulosa.* Flores *racemosi, terminales vel axillares, solitarii, pedicellis bibracteatis vel nudis.* Antheræ *sæpius barbatæ. Br.*

Specific Character and Synonym.

LOBELIA *Bridgesii;* suffruticosa glabra simplex, foliis lanceolatis submembranaceis sensim anguste acuminatis minute serratis basi decurrentibus, racemo elongato bracteato bracteis pedicelli longitudine, laciniis calycinis lato-subulatis, ciliato-serratis, corollæ glaberrimæ tubo dorso fisso basi fissuris 5 (corolla quasi 5-petala) laciniis lineari-acuminatis, staminibus exsertis, antheris 2 apice barbulatis.

LOBELIA Bridgesii. *Hook. et Arn. Contr. S. Am. Bot. in Bot. Journ. p.* 278.

An extremely handsome species of LOBELIA, for our first knowledge of which we are indebted to Mr. BRIDGES. He discovered it near El Castello de Amorgos, Valdivia, in the south of Chili. (It is n. 663 of his Collection.) Since that period the plant has been raised from seeds at the Royal Gardens of Kew, and to Mr. AITON's kindness we owe the possession

possession of it. It produced its very large and handsome flowers in the greenhouse in July, 1837.

Descr. *Plant* three to four feet high. *Stem* stout, suffruticose below, then herbaceous, glabrous, as is every part of the plant, and angled and winged by the decurrent bases of the foliage. *Leaves* five to six inches and more long, lanceolate, much acuminated, penninerved, closely and acutely serrated, even down to the decurrent bases, upwards on the stem they gradually become smaller, and constitute lanceolate and subulate, always strongly serrated *bracteas*, among the flowers. *Pedicels* spreading, about half an inch long. *Calyx-segments* about one-fourth the length of the corolla, erect, broadly subulate, fringed with rather distant, coarse serratures. *Corolla* rose-coloured, reflexed, cleft to the base above, and near the apex and near the base into five linear-acuminate segments; so that it may almost be said there are five petals, cohering at the middle and at the apex. *Filaments* combined into a tube, deep rose-coloured above. *Anthers* lead-coloured, two of them bearded at the apex. *Stigma* curved down a little beyond the anthers, yellow.

Fig. 1. Flower, the Corolla being removed. *Magnified.*

Solanum campanulatum. Bell-flower Solanum.

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Class and Order.

Pentandria Monogynia.

(Nat. Ord.—Solaneæ.)

Generic Character.

Calyx 5—10-partitus. *Corolla* subrotata, 4—10-fida. *Antheræ* conniventes apice poro gemino dehiscentes. *Bacca* 2, 3, 4-locularis, placentis septo adnatis. *Semina* glabra.

Specific Character and Synonym.

Solanum *campanulatum ;* caule herbaceo, aculeis confertissimis rectis subulatis, foliis ovatis angulato-lobatis utrinque hirsutis calycibusque aculeatissimis, racemis simplicibus armatis, corollis campanulatis.

Solanum campanulatum. *Br. Prodr. Nov. Holl. p.* 446. *(non Willd.)*

A very beautiful species of Solanum, for the first knowledge of which we are indebted to Mr. Brown, who found it about Port Jackson. The specimen here figured was communicated from the greenhouse of the Edinburgh Botanic Garden, in July, 1837.

Descr. *Stem* herbaceous, branched, and, as well as almost the entire plant, hirsutely pubescent, and equally clothed in the same parts with numerous long, straight, slender, subulate *spines*, green at the base, the rest purple. *Leaves* petiolate, broadly-ovate, sometimes triangulari-ovate, deeply and irregularly lobed and angled, aculeated on both sides, the aculei confined to the midrib (which is often purple) and the veins. *Racemes* lateral and terminal, few-flowered. *Pedicels* almost as long as the flower. *Calyx* campanulate,

campanulate, five-cleft, persistent ; the segments acute, at first spreading, afterwards connivent over the fruit, very prickly. *Corolla* large, handsome, purplish-blue, broadly campanulate, very indistinctly-lobed, lobes with an acute point, almost aristate. *Stamens* five. *Filaments* short. *Anthers* oblong-lanceolate, connivent, yellow.

Fig. 1. Calyx of the Flower. 2. Calyx, enclosing the young Fruit:—scarcely *magnified*.

2.

3.

Pub by S Curtis Clarenwood Essex Augst 1838

EUPHORBIA JACQUINIFLORA. JACQUINIA-FLOWERED EUPHORBIA, or SPURGE.

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Class and Order.

MONŒCIA MONANDRIA.

(Nat. Ord.—EUPHORBIACEÆ.)

Generic Character.

Involucrum androgynum 4—5-fidum, extus appendiculis glandulosis (petala, *L.* nectaria, *aliorum*). Peripherici: pedicelli incerti numeri, singuli cum singulis staminibus articulati. *Germen* pedicellatum, centrale: *Styli* 3, 2-fidi. *Capsula* 3-cocca. *Spreng.*

Specific Character and Synonym.

EUPHORBIA *jacquiniflora;* dioica? fruticosa, foliis deflexis longe petiolatis lato-lanceolatis, racemis axillaribus paucifloris, involucri lobis 5 obcordatis coccineis basi glandulosis cum squamis rotundatis serratis luteis internis alternantibus.

I regret to know nothing more of the history of this very singular and handsome frutescent EUPHORBIA, than that it was sent from the Berlin Botanic Garden under the appropriate name here retained, and that it flowers in the stove of the Glasgow Garden during the winter months. The fine rich red of the spreading lobes of the involucre contrast admirably with the full and bright green of the foliage.

DESCR. Our plant is a *shrub*, four to five feet high, with the *stem* slender, branching only above, and there only leafy. *Leaves* all pendent, broadly lanceolate, entire, acute, somewhat membranaceous, penninerved, upon long *foot-stalks*. From the axils of the upper leaves arise the short *racemes* of few *flowers* (or rather *involucres*,) each pedicel with a small ovate bractea at the base. *Involucre* with a short,

short, broadly ovate, greenish *tube*, and a five-cleft, spreading bright red *limb* : the segments obcordate, and having at the mouth five roundish, bifid, serrated, buff-coloured, connivent scales. At the base of each lobe is a transverse honey-bearing gland. In our plant the involucres contain only *male flowers* ; each consists of a pedicel with a single *stamen*, subtended by a narrow linear scale. *Anthers* of two globose cells, set apart at the apex of the filament.

Fig. 1. 2. Unexpanded Flowers. 2. Portion of the Involucre, the Scales removed to show the Gland. 3. Scale. 4. Male Flower and accompanying Scale or Bractea :—*magnified.*

Fitch del.

Pub. by S. Curtis Glazenwood Essex Aug.st 1.1838.

ZYGOPETALON MURRAYANUM. MR. MURRAY'S ZYGOPETALUM.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Perianthium explanatum, sepalis petalisque ascendentibus subæqualibus, cum ungue producto columnæ connatis. *Labellum* muticum indivisum, patens, ungue ascendente, crista magna transversa carnosa. *Columna* brevis, arcuata, semiteres. *Anthera* subbilocularis. *Pollinia* 2, bipartibilia, in glandulam transversam subsessilia.—Herbæ *terrestres, subacaules, foliis plicatis patentibus.* Flores *speciosi, labello cæruleo.*

Specific Name and Character.

ZYGOPETALUM *Murrayanum;* pseudo-bulbis ovatis profunde sulcatis, foliis lanceolatis striatis, racemis plurifloris, sepalis petalisque ovato-lanceolatis acutis immaculatis, labelli lobis oblongis lateralibus erectis intermedio 4-plo majore reflexo albo basi purpureo maculato callo prominente sulcato.

ZYGOPETALUM Murrayanum. *Gardn. MSS.*

This new ZYGOPETALUM has been lately discovered with many other treasures in the Organ Mountains of Brazil, by Mr. GARDNER, and has been named by him in compliment to his steady friend Mr. STEWART MURRAY of the Glasgow Botanic Garden, under whose skilful management, the bulbs sent by Mr. GARDNER about the middle of last year blossomed in the early part of Winter. In the Organ Mountains, it is found at an elevation of about four thousand feet above the level of the sea.

DESCR.

Descr. *Pseudo-bulbs* clustered, nearly three inches long, ovate, furrowed. *Leaves* lanceolate, somewhat membranous, acute, tapering at the base, striated. *Scapes* radical, generally one from each side of a young shoot, racemose, shorter than the foliage. *Bracteas* broadly lanceolate, about as long as the pedicels (including the germens). *Sepals* and *Petals* spreading, pale yellow, green, ovato-lanceolate, acute, connate at the base, nearly equal. *Lip* white, deeply three lobed; the lateral lobes at the base (where there are some dark purple streaks) erect, oblong, incurved, the terminal or intermediate one four times as large, nearly of the same shape, reflexed. The callosity or crest is between the two lateral lobes, very prominent and fleshy, recurved, somewhat furrowed. *Column* semiterete, pale greenish-white, streaked with red in front, decurrent below, where the labellum is fixed. *Anther* transverse, obtuse, in a great measure sunk into the top of the column, two-celled. *Pollen* two pairs of obovate, waxy masses, fixed to a brown, triangular gland.

Fig. 1. Lip. 2. Column. 3. Outer, and 4, inner view of the Anther-case. 5. Pollen-masses :—*magnified.*

Pub by S Curtis Glazenwood. Essex Sc 1 Ju 1

Ismene Macleana. Mr. M'Lean's Amancaes.

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Class and Order.

Hexandria Monogynia.

(Nat. Ord.—Amaryllideæ.)

Generic Character.

Tubus curvatulus cylindricus, laciniis angustis linearibus patulis. *Filamenta* conniventia (tria superiora in coronam plerumque deflexa curvata): *Antheræ* modicæ. *Semina* viridia rotunda.—Bulbus *ovatus*. Folia *æstiva decidua*. Bulbus *semine maturo mox ortus non ante æstatem sequentem folia protrudit.*

Specific Name and Character.

Ismene* *Macleana;* germine breviter pedunculato, perianthio sublutescente viridi-notato, tubo gracili triunciali, limbo et stylo coronam superante, filamentis circiter $\frac{1}{4}$-uncialibus, flore odorato, foliis viridibus. *Herbert in Litt.*

The Glasgow Garden is indebted to John M'Lean, Esq., of Lima for the bulbs which produced this handsome and delightfully fragrant Amancaes, and which Mr. Herbert considers to be a new species, worthy of bearing the name of the liberal gentleman through whose means we possess it. Its nearest affinity is with I. *pedunculata*, (Herb. Amaryll. p. 222. t. 35. f. 2.,) from which it is distinguished by the above characters. It flowers readily in the stove, and makes a very handsome appearance.

This

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* Named after the daughter of Œdipus and Jocasta.

This is one of those plants so much celebrated by the Peruvians under the name of AMANCAES. And so great a favourite is this flower with the people, that the plain at the foot of the mountains, where it grows, near Lima, bears the same name; and one of the greatest festivals at Lima, called the "Festival of the Amancaes," is thus described by a late intelligent visitor.

"The *Amancaise* is an annual festival, celebrated at Lima on the 24th of June: it is something similar to our May-Day; the occasion of it being the height of bloom at that time of a flower peculiar to Peru, called the '*Amancaise,*' to gather which, the citizens of every class, in the afternoon of the day, hasten, as a gala, to a spot in the vicinity of the city, deriving its name, as well as the festival itself, from the flower which grows more abundantly there than in any other place.

"After an early dinner, our party, principally on horseback, set off. It was with difficulty that a sufficient number of steeds could be secured, as every animal of the name and similitude, in the city, is put in requisition at this time, if at no other during the year.

"We left the city by a new and handsome gate on the North, and crossing the bridge over the *Rimac*, passed through a large suburb, whence we entered a regularly planted and beautiful *Almeda*, or avenue, a favourite promenade of the Limanians, and similar to that already described at the entrance of the city from Callao.

"After passing the Almeda, we entered a narrow, winding, and sandy road, enclosed on either side by high mud walls and completely filled by parties in carriages, on horseback, and on foot, gazing at each other, and interchanging looks and bows of cheerful hilarity. Here were persons of every class of society, from the highest to the lowest, and of every shade and colour, from the fairest Briton to the deepest ebony of the African Tribes.

"At the end of two miles, we found ourselves close to the wild and naked hills, encircling Lima on the North and East, and immediately in front of a gorge, between two of these, terminating at the distance of half a mile, against the steep acclivity of a third. The whole were bare as volcanic ashes and sand can make them, except where the bloom of the flower, which had called the crowds together, exbibited, here and there, a tinge of yellow, (for this was the '*Amancaise,*' the spot of our visit,) and over the precipitous sides of which, small parties were already scattered, and even horsemen,

horsemen, at the seeming hazard of their necks, clambering to points, fitted, apparently, only for the footing of the goat or chamois.

" The general appearance of the multitude, at the distance first seen, was that of a field in America at a general militia-muster, or of a race course : and a nearer view, save in the variety of colour and novelty of costume, did not lessen the resemblance. There was the same bustle and hum of laugh and talk ; the same pressing and hurrying from one place to another, the confused sound of musical instruments in different directions, and the loud and coarse mirth of the booth and the stall.

" On either side of the way were carriages drawn by mules, with a postillion and footman, and filled with ladies and children in rich evening dress ;—around these, groups of genteel-looking horsemen were gathered in gay conversation and laughter ; while within a few rods on every side, might be seen thronged circles, in the midst of which, negroes and negresses, in as full dress as their masters and mistresses, were dancing to music scarce less heathenish, vulgar, and rude, than that heard within the kraals of their aboriginal country.

" Every person was decorated with the *Amancaise*, and clusters of the flowers were placed in the bridles and harness of the horses, as well as on the hats and headdress of the riders.

" We rode to a rancho, or booth, for the purpose of tasting a common drink of the country, called *Chichi*. It is made from new corn ground, and tastes much like the beer at a distillery of Whiskey after fermentation, and before distillation has taken place. The primitive and favourite preparation of it among the Indians was by chewing, in the manner of the *Ava* at the Sandwich Islands : a fact, which I was satisfied not to have learned till after my curiosity in tasting it had been indulged.

" By this time, the scene around had reached the height of interest in its novel and varied exhibition. In addition to hundreds of *Calesas*, the clumsy and antique carriage in general use, there were two English chariots, two barouches, two gigs, and a few other foreign vehicles, on the ground. One or two Scotch and English ladies, on horseback, were also distinguished in the throng, and a few Spanish ladies, mounted, in similar dresses and attitude ; while other natives, male and female, Peruvians, both Spaniards and Indians, Negroes and Negresses of every shade, and in an endless

endless variety of costume, some on foot, and others on every kind of animal, from the noblest of horses to the sorriest jackass, were scattered in thousands around.

"It was not long before the fashionables began to move on a return, and the mob slowly to follow; many of those on foot dancing as they went, to the rude tunes of the Negroes, still heard at a distance. I observed one Peruvian female advance in this manner at least a quarter of a mile, turning, as in a waltz, the whole time, in the midst of carriages and gay horsemen, apparently in danger every moment of being run over.

"In coming from the city, I had noticed at the termination of the road where we entered the *Amancaise*, a kind of tent, in crimson hangings, at which there was dancing and music, with a crowd around. The throng pressing forward was, however, so great, that I merely observed a man and woman, running to the carriages and horsemen passing, with plates extended, for money. On our way back, we stopped here for a moment, the musicians were still playing; the instruments, a violin, flute, and rude harp; the air, a monotonous repetition of a few wild notes. But what most astonished and affected me, and what is perfectly characteristic of the religious views and state of the people, was to behold a table, in front of which the dancers were, spread with the flowers of the *Amancaise*, at which was seated a full length waxen figure of the Saviour of men, crowned with thorns, and streaming with blood!—representing him who was emphatically, 'a man of sorrows and acquainted with grief,' thus presiding over a scene of mirth and folly.

This sight induced a sadness, which all the gaiety of the thousands we met and passed on our way to the city could not dissipate; and it was only with the deep tones of the vesper bell, falling upon us from the towers of the cathedral, as we entered the royal square, invoking from all a moment, at least, for solemnity and prayer, that a change of thought and feeling came over me." *Stewart's Visit to the South Seas.*

Fig. 1. Flower, with the Limb of the Perianth removed; *nat. size.*

W. Fitch. Del!

Pub. by S. Curtis. Glazenwood Essex Sep^b 1. 1838

Swan Sc

POTENTILLA GLABRA. GLABROUS POTENTILLA.

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Class and Order.

ICOSANDRIA POLYGYNIA.

(Nat. Ord.—ROSACEÆ.)

Generic Character.

Calycis tubus concavus, *limbus* 4—5-fidus, extus 4—5-bracteolatus. *Petala* 4—5. *Stamina* numerosissima. *Carpella* numerosissima stylo laterali donata, in receptaculo procumbente persistente exsucco capitata. *Semen* appensum.—Herbæ *aut* Suffrutices *foliis compositis, stipulis petiolo adnatis, floribus albis luteis rariter rubris.*

Specific Character and Synonyms.

POTENTILLA *glabra ;* caule fruticoso erecto, ramis nutantibus, foliis pinnatis bijugis sursum ternatis vel simplicibus utrinque glabris nitidis subtus glaucis (floribus albis.)

POTENTILLA glabra. *Lodd. Bot. Cabinet,* 914. *Graham, in Ed. Phil. Journ, March,* 1838.

This is a very pretty little shrub, producing in abundance its small, rosaceous, white blossoms ; its erect, rigid stem, and arched branches, forming a neat round bush, and fitting it for cultivation along with the smaller ornamental species of CISTUS. The flowers appeared in succession in the open border at the Botanic Garden, Edinburgh, during August and September. The species is a native of Siberia, and is stated by Mr. LODDIGES to have been received by him from Mr. BUSCH of St. Petersburg in 1822. The difficulty of propagating it, noticed by Mr. LODDIGES, is probably the reason why it is so seldom seen in collections.

DESCR.

Descr. *Shrub* erect, rigid, every where glabrous, excepting occasionally on the edges of the leaflets, on the young shoots, peduncles, and outside of the calyx, where there are a few long, spreading hairs. *Flowering branches* cernuous. *Leaves* very numerous, small, pinnate, bijugate, those towards the flowers ternate, or at the base of the peduncle simple; *leaflets* ovato-acute, turned forwards at their apices, reflected at their sides, slightly undulate, veined, shining above, glaucous below, the upper pair slightly decurrent, and often united at their base to the terminal leaflet. *Stipules* dry and membranous, brown, 2-ribbed, united in front of the petiole, and about as long as it, bifid at the apex. *Peduncles* (about half an inch long) reflected upwards, collected in small numbers, or solitary near the extremity of the branches. *Petals* subrotund, entire, white, longer than the calyx. *Styles* short and abrupt. *Receptacle* hairy. *Graham.*

I take the earliest opportunity afforded by a vacant space in the present number of the Magazine, to offer my very sincere apology to J. R. Gowen, Esq., for having spoken of him, at p. 3667, as the "gardener," at High Clere; whereas the gardener is Mr. Lindsay. Mr. Gowen is a gentleman of independent fortune, much devoted to Science, and well known in the most respectable circles in London; and under whose advice and direction many of the improvements at High Clere had been effected by the late Earl of Caernarvon:—a circumstance which led to my unfortunate mistake. W. J. H.

Published by Mr. Hazewood Essex Sep.r 1.1838. Swan Sc.

Sophronitis cernua. Drooping-flowered Sophronitis.

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Class and Order.

Gynandria Monandria.

(Nat. Ord.—Orchideæ.)

Generic Character.

Pollinia 8, antice et postice parallela, caudicula duplici pulverea, glandula o ? *Anthera* terminalis opercularis 8-locularis, cardine crasso. *Stigma* concavum rostello obtuso. *Columna* libera apice utrinque alata, alis integris conniventibus super cristam labelli. *Labellum* integrum cucullatum linguiforme, basi cum columna connatum, medio crista simplici transversa. *Sepala* subæqualia, imbricata, basi libera.—Herba *epiphyta (Braziliensis) monophylla, non bulbosa, racemis axillaribus effusis pauciflоris,* floribus *rubris. Lindl.*

Specific Character and Synonym.

Sophronitis * cernua.

Sophronitis cernua. *Lindl.* (in a note upon Eulophia *ensata*) *Bot. Reg. t.* 1147.

Sophronia cernua. *Lindl. Bot. Reg. t.* 1129.

" This pretty little Epiphyte was added to Sir Charles Lemon's Collection at Carclew, in August, 1836, and flowered in November, 1837. Its native country is Brazil, whence it was first introduced to our stoves by William Harrison, Esq. Specimens were also gathered by Mr. Gardner in the Organ Mountains, and are distributed as No. 665 of the second collection. The plant requires a high

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* From σωφρον, *modest*, from its unassuming appearance.

high temperature, and to be kept rather moist. It thrives pretty well when placed on the branch of an old apple tree, to which it soon attaches itself by means of its long, clasping, round, ash-coloured roots.

"DESCR. *Pseudo-bulbs* one-leaved, roundish-oblong, alternate, dark green, nearly concealed by the thin, sheathing, brownish covering in which they are enveloped, becoming when old flattish, compressed, and wrinkled. *Leaves* ovate, sessile, smooth, thick and leathery, rather more than an inch long, and three-fourths of an inch broad, cordate at the base, slightly pointed, and of a rich green colour. *Scape* short and round, issuing from the base of the leaves, on our plant four-flowered, but on the old specimens they appeared to have been eight or nine, with a small acuminate, persistent bracte at the base of each. *Pedicels* round, thickening outwardly, of a greenish-orange as well as the buds, which are triangular and pointed. *Sepals* spreading, ovate-oblong, acute, of a bright reddish-orange. *Petals* similar in form and colour, but rather broader and rounder at the point. When the flower has been some time open, both sepals and petals become reflexed. *Labellum* a little shorter than the petals, and of a paler orange, ovate acuminate, slightly concave, with the edges turned up so as to embrace the column on each side, and having two, somewhat reniform, fleshy protuberances at its base. *Column* about half the length of the labellum, roundish above, with two wings beneath tipped with dark pink. *Anther-case* brownish-red, two-celled, containing four pairs of thin, ovate-acuminate, yellow, pollen-masses in each."

I am indebted to Mr. BOOTH, of the Carclew Gardens, for the above description and for the drawing from which the plate was engraved.

Pub.by S. Curtis Clapham Wood Esser Sept. 1. 1838.

ARTHROSTEMMA VERSICOLOR. CHANGEABLE-FLOWERED ARTHROSTEMMA.

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Class and Order.

OCTANDRIA MONOGYNIA.

(Nat. Ord.—MELASTOMACEÆ.)

Generic Character.

Cal. tubus turbinatus campanulatusve sæpè pilis setis squamisve vestitus ; lobi 4 lanceolati persistentes : appendices inter lobos nullæ. *Petala* 4. *Stamina* 8, *filamentis* glaberrimis ; *antheræ* oblongæ 1-porosæ connectivo longiusculo basi obtuse biauriculato. *Ovarium* apice setosum. *Capsula* 1-locularis. *Semina* cochleata.—Herbæ *aut* suffrutices *habitu subvarii, omnes Americani. Genus heterogeneum et in posterum dividendum ! interea ne generum multiplicatis nimia evadat, hic indivisum retinui. D C.*

Specific Character and Synonyms.

ARTHROSTEMMA *versicolor ;* suffruticosum undique pilosum, foliis petiolatis ovatis serrulatis 3—5-nerviis, floribus terminalibus solitariis ebracteatis, calycis lobis 4 linear-oblongis reflexis, ore intus 8-glanduloso.

ARTHROSTEMMA versicolor. *De Cand. Prodr. v. 3. p.* 137.

RHEXIA versicolor. *Lindl. Bot. Reg. t.* 1066.

An exceedingly pretty Melastomaceous plant, probably not an unfrequent native of Brazil. It was first detected by Mr. M'RAE at St. Catherine's, who was the Collector there for the Horticultural Society ; and since, on the same line of coast, by Mr. TWEEDIE, from whose seeds it was raised at the Glasgow Botanic Garden, and the little bushy plants are pretty thickly studded with their delicate flowers in July and August. It seems to require the heat of the stove to bring it to perfection.

DESCR.

Descr. *Plant* eight to ten inches high, somewhat shrubby at the base, above herbaceous, much and dichotomously branched, four-sided, hispid with spreading hairs. *Leaves* opposite, rarely, at the dichotomies, quaternate, ovate, acute, spreading, serrated, hispid and ciliated, three to five-nerved, paler, sometimes reddish beneath: *upper leaves* gradually smaller, so that the plant terminates in a somewhat leafy panicle. *Flowers* solitary, terminal, upon a short hispid *pedicel*. *Calyx* hispid: *tube* ovate, the *limb* of four reflexed linear-oblong segments; there are no scales alternating with the segments, but a bristle there situated is generally larger than the rest: within at the mouth are eight small coloured glands. *Petals* four, obovate, approaching to round, of a pale rose-colour, fringed at the apex. *Stamens* eight, exserted, nearly erect, equal. *Anther* oblong, acuminate, yellow, with two gibbosities at the base. *Germen* free, ovate, hispid at the apex. *Style* filiform, exserted.

Fig. 1. Calyx with its Pistil. 2. The same laid open. 3. Petal. 4. Stamens.

W. Fitch del.t

Pubby S. Curtis Glazenwood Essex Sept. 1. 1828

Swan Sc

ASPASIA VARIEGATA. VARIEGATED ASPASIA.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Perianthium patens, æquale. *Sepala* lateralia libera; supremum cum petalis basi et dorso columnæ connatum. *Labellum* oblongum, concavum, ecalcaratum, obsolete 4-lobum, cum columna semiconnatum. *Columna* labello parallela, semiteres, marginata. *Anthera* bilocularis. *Pollinia* 2, pyriformia, postice sulcata, caudicula plana cuneata, glandula parva.—Herbæ *epiphytæ, caulescentes, pseudobulbosæ*. Folia *subcoriacea*. Spicæ *radicales, breves. Lindl.*

Specific Name and Character.

ASPASIA* *variegata;* pseudo-bulbo oblongo ancipiti-compresso basi et ad apicem diphyllo, foliis elongato-lanceolatis, subenerviis, scapo radicali unifloro bracteato, perianthii foliolis lanceolatis, labelli subtrilobi bituberculosi ungue elongato columna connato.

ASPASIA variegata. *Lindl. Bot. Reg. t.* 1907.

This, I at first considered a new ZYGOPETALUM. It will, however, be seen to be the same plant with the ASPASIA *variegata* of Professor LINDLEY. It was sent from Trinidad in 1835 by Mr. CROSS to the Glasgow Botanic Garden, where it produced its beautifully marked and highly fragrant flowers in July, 1837.

DESCR. *Pseudo-bulbs* clustered, oblong, compressed and two-edged, pale green, smooth at the base, at each angle is a

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* From *ασπαζομαι, I embrace,* in allusion to the manner in which the column is embraced by the labellum.

a sheathing scale terminated with a leafy appendage, and each pseudo-bulb is also terminated with a pair of elongated, moderately thin, lanceolate, recurved and somewhat nerveless *leaves*, about a span long: from the base of the pseudo-bulb, and in the axil of the leafy scale, arises the scape, two to three inches in height, and bearing two or three small bracteæ, and a single *flower*. *Sepals* and *petals* alike, lanceolate, the three former widely spreading, the two latter erecto-patent, all yellow-green, beautifully pencilled with brown lines, which are interrupted by pale bands. *Lip* with a long *claw*, which is united for its whole length with the column, its lamina broadly ovate, three-lobed, with a small, reflexed point, yellowish-white, streaked with purple lines; at the base are two deep orange spots, and in the middle are two slightly elevated oblong tubercles. *Column* quite erect, cylindrical, grooved in front, pale green, tawny upwards. *Pollen-masses* two, obovate, bipartite.—The *anther-case* had fallen before I had the opportunity of seeing the specimen.

Fig. 1. Column and Lip:—slightly *magnified*.

Pub by S. Curtis Glazerwood Essex Sept 1 1832

Gladiolus Mortonius. Mr. Morton's Gladiolus.

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Class and Order.

Triandria Monogynia.

(Nat. Ord.—Irideæ.)

Generic Character.

Corolla tubulosa, limbo 6-partito irregulari. *Stamina* adscendentia. *Stigmata* filiformia indivisa. *Semina* alata. *Spr.*

Specific Name and Character.

Gladiolus *Mortonius;* foliis 8—9 viridibus nervosis acutis tortilibus $\frac{9}{10}$ unc. latis 10-uncialibus flabelliformiter divergentibus, scapo sesquipedali, floribus antice spectantibus sex vel ultra undulatis reflexo-patentibus substriatis albo-roseis, stylo antherisque albescentibus. *W. H.*

Gladiolus Mortonius. *Herbert, MSS.*

A new species, from the East coast of Southern Africa, for the drawing and character of which, we are indebted to the Hon. and Rev. William Herbert of Spofforth, who, we are happy to say, is devoting the same attention to the Irideæ, which he has lately paid to the Amaryllideæ, and we trust the public will derive the same advantage from the result of his labours, by the publication of them also. That gentleman received the plant from Messrs. Rollisons, and named it in compliment to the person who sent it to this country. He observes that, in the posture of its flowers, it belongs to the European and Natal-river species, and seems to have some affinity to Gladiolus *oppositiflorus*, (Herb. Amaryll. p. 366.,) but is not half so tall.

Walter Fitch. del.t

Pub. by S. Curtis Glazenwood Essex Dec. 1 1834

SPATHODEA PENTANDRA. FIVE-STAMENED SPATHODEA.

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Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—BIGNONIACEÆ.)

Generic Character.

Cal. spathaceus, hinc fissus. *Cor.* infundibuliformis, limbo 5-fido inæquali. *Filamentum* quintum sterile. *Stigma* bilamellatum. *Caps.* siliquæformis falcata sub-4-locularis, dissepimento valvis contrario suberoso. *Spreng.*

Specific Name and Character.

SPATHODEA * *pentandra;* arborea, foliis impari-pinnatis, foliolis plurijugis lato-ovatis acuminatis undulatis glabris acute serratis, panicula terminali thrysoidea glaberrima, corollæ limbo bilabiato sæpissime 6-lobo 5-andro cum rudimento sterili.

Seeds of this noble Bignoniaceous tree were received from India by Mr. MURRAY of the Glasgow Botanic Garden, under the name of "BIGNONIA *pentandra*," a name of LOUREIRO, referred by WILLDENOW to B. *Indica*, a very different species from the present, which, on account of the structure of the calyx I refer to SPATHODEA. Indeed I do not find it anywhere described, but it will probably rank next to BIGNONIA (*Spathodea*, SPR.) 4-*locularis*, ROXB. Cor. t. 145: which has, however, much smaller leaves, a tomentose panicle, and a nearly regular limb to the corolla. Our plant did not flower till it had attained a height of nearly twenty feet. This occurred in June, 1838.

DESCR.

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* σπαθη, a *spatha*, from the sheathing nature of the calyx.

Descr. *Trunk* erect, straight, slender, branched slightly and only at the top, where alone it is leafy. *Leaves* two to three feet and more long, impari-pinnate. *Leaflets* opposite, from five to ten or twelve pairs, ovate, glabrous, (as is every part of the plant,) waved, serrated, strongly penni-nerved, the nerves prominent beneath. The *rachis* rounded, swollen at the insertion of the leaflets. *Panicle* of many large, handsome *flowers*, so compact as to form a thyrsus. *Peduncles* and *pedicels* red, rough, with raised points. *Calyx* red, oblong, somewhat inflated, split to the base on one side, the apex bifid. *Corolla* two inches long: *tube* inflated upwards, yellowish. *Limb* two-lipped, white mottled with purple: *upper lip* of two, *lower* of three or four obtuse, waved and somewhat crenated lobes. *Stamens* four, and didynamous; a fifth solitary stamen is present when the corolla is six-lobed: and there is besides the rudiment of a sixth stamen. *Anthers* large, white. *Germen* linear, inserted upon a yellowish gland or disk. *Style* white, filiform, bent at the base. *Stigma* of two lanceolate plates.

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1. Calyx and Pistil. 2. Base of the Corolla with Stamens. 3. Pistil, and hypogynous Disk:—*magnified.*

W Fitch del.t

Pub.d by S. Curtis Glazenwood Essex. Oct.r 1 1838

Swan.sc

Pleurothallis Grobyi. The Groby Pleurothallis.

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Class and Order.

Gynandria Monandria.

(Nat. Ord.—Orchideæ.)

Generic Character.

Sepala conniventia subæqualia: lateralibus v. omnibus connatis. *Petala* minora. *Labellum* liberum, cum columna subparallelum, integerrimum, petalis difforme. *Columna* elongata, aptera, libera, cum ovario continua. *Anthera* apice membranacea. *Pollinia* duo, nunc materia pulverea ad apicem cohærentia.—Herbæ *epiphytæ, rhizomate repente filiformi.* Caules *filiformes monophylli, sæpius vaginati.* Flores *axillares, solitarii, v. fasciculati, v. racemosi, herbacei v. fusci. Lindl.*

Specific Character and Synonym.

Pleurothallis *Grobyi;* folio oblongo-spathulato racemo laxo gracili multoties breviore, bracteis minimis membranaceis, sepalis costatis oblongis acutis lateralibus apice tantum sejunctis, petalis lanceolatis, labello lineari obtuso carnoso superne unisulcato.

Pleurothallis Grobyi. *Bateman in Bot. Reg. t.* 1797.

This is a Brazilian plant, sent from the Organ Mountains, near Rio Janeiro, by Mr. Gardner, to the Glasgow Garden, in the spring of 1836, and it flowered in the stove in July of 1837. It seems almost to connect the P. *picta* * of

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* Of the P. *picta* we have received beautiful flowering specimens at the time of writing this, from our often-mentioned friend C. S. Parker, Esq., of Liverpool.

of Lindley with the P. *Grobyi*, (both from Guiana,) having leaves more resembling the former, and flowers more according with the latter, but rather longer in proportion to the diameter. It is of larger growth than either, but, on the whole, I am disposed to refer it to P. *Grobyi*.

Descr. *Plants* growing loosely tufted, many from one point: each consisting of a slender, almost filiform *stem*, and one oblongo-spathulate, somewhat coriaceous *leaf*, from the base of which arises the *peduncle*, four to five inches long, extremely slender, almost capillary, reddish, bearing a distichous *raceme* of flowers; the rachis zigzag. *Flowers* yellow-green, streaked with red; *upper sepal*, as it is usually considered, ovato-lanceolate, the two side ones much narrower, united into one by their lower edge: thus the flower appears to be two-lipped. *Petals* very small, lanceolate. *Lip* the size of the petals, jointed on the decurrent base of the column, oblong, obtuse, furrowed, and with two small tubercles near the middle. *Column* as long as the lip. *Anther* sunk into the top of the column.

Fig. 1. Flower. 2. Flower from which the two lateral Sepals are removed. 3. Column and Lip. 4. Front view of the Column:—*magnified*.

Pub. by S. Curtis Clarence Rd. Essex Oct. 1 1838

Swan Sc

VERONICA PROSTRATA; γ., satureiæfolia.
PROSTRATE SPEEDWELL; Savory-leaved *var.*

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Class and Order.

DIANDRIA MONOGYNIA.

(Nat. Ord.—SCROPHULARINÆ.)

Generic Character.

Cor. 4-fida, rotata; lacinia infima angustiore. *Caps.* 2-locularis apice emarginata.

Specific Character and Synonyms.

VERONICA *prostrata*; foliis sessilibus oblongis obtusis serratis superioribus lanceolatis planis, calycibus 4—5-partitis, caule florifero ascendente.

VERONICA prostrata. *Vahl, Enum.* 1. *p.* 75. *De Cand. Fl. Fr. v.* 3. *p.* 460. *Spreng. Syst. Veget. v.* 1. *p.* 73. *Roem. et Schult. Syst. Veget. v.* 2. *p.* 111.

(β.) minor.

(γ.) satureiæfolia. *Roem. et Schult. l. c.* γ. satureiæfolia. *Poit. et Turp. Fl. Par. p* 22; spicis lateralibus caulem prostratum superantibus, foliis infimis oblongis superne serratis, intimis subdenticulatis, aliis linearibus integerrimis. (*Tab. nostr.* 3683.)

A hardy perennial; a native of France, Germany, Italy, and Switzerland, and well deserving of cultivation on account of the very brilliant blue of the flowers, in conjunction with their large size and constant succession from a very long raceme. It blossoms during the summer months.

DESCR. *Stem* prostrate at the base and purplish, then erect and green, more or less downy, as is the entire plant. *Leaves* opposite, mostly oblong, especially in the lower part of the plant, spreading, or somewhat reflexed, deeply serrated,

serrated, and marked with a few nerves, which have a direction almost parallel with the midrib, dark green above, paler beneath : the upper leaves are narrower, less serrated, and the uppermost are linear and quite entire. *Racemes* axillary, pedunculated, a span long, loaded with blossoms in various stages of expansion. *Pedicels* about as long as the calyx, with a linear stipule at the base. *Calyx* oblique, deeply five-cleft, almost partite, the segments lanceolate, unequal. *Corolla* rotate, of four spreading, broadly-ovate lobes, of which the lower one is the smallest. *Style* slender, blue; *Stigma* capitate.

Fig. 1. Calyx including the Pistil, Pedicel, and Bractea :—*magnified.*

Pub by S. Curtis Glazenwood Essex Oct 1838.

Swan Sc

Solanum fragrans. Fragrant South American Nightshade.

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Class and Order.

Pentandria Monogynia.

(Nat. Ord.—Solaneæ.)

Generic Character.

Cal. monophyllus, persistens. *Cor.* monopetala, rotata. *Antheræ* oblongæ, apice poris duobus dehiscentes. *Bacca* bi- tri-quadrilocularis.

Specific Name and Character.

Solanum *fragrans ;* arborescens, foliis geminis ovatis cordatisve inæqualibus integerrimis, racemis solitariis ex axillis ramorum, floribus secundis pedicellis inferioribus maxime elongatis, calyce 5-fido, corollis latocampanulatis profunde 5-partitis, limbo reflexo, staminibus geniculatis, stigmate dilatato concavo.

This extremely curious Solanum was sent from South Brazil by Mr. Tweedie, to the Glasgow Botanic Garden. It grew rapidly, but for the first two years showed no disposition to flower in a pot, when it was removed into a border in the great stove, where it soon reached a height of twelve to fourteen feet, and in the month of June produced its singular racemes of changeable coloured flowers, the fragrance of which is peculiarly powerful and agreeable. I can find no description of a Solanum which agrees with it ; but there is, in Dr. Schomburgk's collection from Guiana, a species which comes near to it, but there the calyx is almost entire ; the segments of the corolla are not reflexed nor glabrous, and the stamens are very different.

Descr. *Stem* erect, arborescent, twelve or fourteen feet high

high in our cultivated plant, bearing at the top many long branches spreading horizontally, glabrous, as is every part of the plant. *Leaves* in pairs, rarely solitary, unequal, petiolated: the lesser one on the shorter petiole, cordate, shortly acuminate, entire, glossy and somewhat succulent; the larger one on a longer petiole, and rather ovate than cordate, dark green, a little paler beneath. From the forking of the branches the *peduncles* have their origin; these are pendent, bearing a raceme of flowers, of which the pedicels are all secund, the lower ones, (and, indeed, all of them as the blossoms expand,) singularly reflexed, that is, bent in the direction of the base of the peduncle, but the mouth of the flowers all directed downwards. *Calyx* a shallow cup with five spreading, rather short, triangular lobes. *Buds* at first purple, then greenish, at length when fully open, green with a dark streak on the back of each segment: valvate but not plicate in æstivation. The corolla is thick and fleshy, rotato-campanulate; that is broadly campanulate, and deeply cut into five oblong, reflexed segments. *Stamens* with the filament short, bent back, and suddenly geniculated at the top, so as to incline the *anthers* forward, of which the tips reach the top of the style, while their bases are at a considerable distance, purplish: the *connectivum* swollen and gibbous at the base. *Germen* subglobose, tapering into a very short, thick style. *Stigma* dilated, very thick, green, transversely oval, concave, with two swellings or tubercles within.

Fig. 1. Stamens and Pistil: the Calyx and Corolla almost entirely removed. 2. Nearly front view of a Stamen. 3. Back view of ditto. 4. Pistil. 5. Section of the Germen:—*magnified.*

W Fitch del.t

Pub. by S. Curtis, Glasenwood, Essex. Octl. 1838.

Ipomæa Platensis. The Plata Ipomæa.

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Class and Order.

Pentandria Monogynia.

(Nat. Ord.—Convolvulaceæ.)

Generic Character.

Cal. 5-partitus, nudus. *Cor.* campanulata v. infundibuliformis, 5-plicata. *Germen* 2—3-loculare, loculis dispermis. *Stylus* indivisus. *Stigma* capitatum, 2—3-lobum. *Caps.* 2—3-locularis. *Br.*

Specific Character and Synonyms.

Ipomæa *Platensis;* volubilis, foliis palmatis lobis septenis cuneato-oblongis obtusis extimis minoribus, pedunculis 2—4-floris petiolo longioribus, calycis foliolis subrotundato-ovatis obtusis.

(α.) pedunculis petiolisque tuberculatis.

Ipomæa Platensis. *Herb. in Bot. Reg. t.* 333.

(β.) pedunculis lævibus, petiolis tuberculatis. (Tab. nostr. 3685.)

A very handsome Ipomæa, a native of the banks of the Plata, for our first knowledge of which we are indebted to the Hon. and Rev. William Herbert of Spofforth, who raised it from seeds sent by Mr. Cooper. It has again been transmitted in the year 1836, by Mr. Tweedie, from the same country, to the Glasgow Botanic Garden, where it blossomed in great perfection in the stove, in the month of August, 1837.

Descr. The *stem*, as is so common in this genus, is long and climbing, the younger shoots slender and green. *Leaves* petiolate, glabrous, palmate, or rather pedate, for the lobes are five, lanceolate, or oblongo-lanceolate, obtuse, the two lower ones again divided, the lowest segments smaller

smaller than any of the rest. *Petioles* shorter than the leaves, terete, flexuose, tubercled ; but in this variety the tubercles are small and partial. *Peduncles* axillary, solitary, slender, tubercled in α, smooth in β, longer than the petioles, but shorter than the leaves, bearing an umbel or cyme of from two to four handsome *flowers*, each pedicel having a bractea at the base. *Calyx* of five, imbricated, broadly oval, concave leaflets, closely appressed to the base of the flower. *Corolla* between hypocrateriform and funnel-shaped, of a delicate lilac colour, with a broad five-lobed, spreading limb. *Germen* on a glandular disk. *Stigma* two-lobed, granulated.

Fig. 1. Pistil :—*magnified.*

3616.

Pub by S.Curtis. Glaxenwood Essex. Oct. 1838.

ZYGOPETALON MAXILLARE. TREE-FERN ZYGOPETALON.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Perianthium explanatum, sepalis petalisque ascendentibus subæqualibus, cum ungue producto columnæ connatis. *Labellum* muticum, indivisum, patens, ungue ascendente ; crista magna, transversa, carnosa. *Columna* brevis, arcuata, semiteres. *Anthera* subbilocularis. *Pollinia* 2, bipartibilia, in glandulam transversam subsessilia.—Herbæ *epiphytæ, subacaules; foliis plicatis patentibus.* Flores *speciosi, labello cæruleo. Lindl.*

Specific Character and Synonyms.

ZYGOPETALON *maxillare ;* pseudo-bulbis oblongis sulcatis, foliis lanceolatis nervosis basi attenuatis, sepalis petalisque ovato-oblongis acutis subæqualibus, labelli trilobi obtuse calcarati lobis lateralibus erectis crista unguliformi crenato maximo unitis intermedio patente majori subrotundo.

ZYGOPETALON maxillare. *Lodd. Bot. Cab. t.* 1776. *Lindl. Gen. et Sp. Orch. p.* 188.

A very beautiful epiphyte, remarkable for the colour of the labellum, which is a rich and very deep purple, and still more so for the form of the large callosity at its base, which Mr. LODDIGES compares to the lower jaw of an animal, and which in shape resembles a horse's hoof. If well grown this is one of the most beautiful of its tribe, for it has in its native forests a rhizoma more than six feet in length, while from the tops of its branches the racemes of flowers

flowers appear, of which there are three within a few inches of each other, in the native specimen in my Herbarium. Mr. Gardner found it on the Organ Mountains in April of last year, and *always* growing upon the stems of the Tree Ferns. It flowered readily in the stove of the Glasgow Botanic Garden, in June, 1838, a few months after the plant was imported.

Descr. *Pseudo-bulbs* oblong, furrowed. *Leaves* eight to ten inches in length, lanceolate, membranaceous, strongly nerved, attenuated at the base. *Scapes* longer than the leaves, each bearing six to eight large handsome *flowers*, with sheathing scales, which pass into bracteas that sheath the germen. *Sepals* and *petals* spreading, nearly equal, (the latter the narrowest,) ovato-oblong, acute, green with transverse, brown blotches. *Lip* horizontal, purple, the two side lobes erect and united to the remarkably large, deep, glossy purple, notched, and horse-shoe-shaped callosity: the middle lobe roundish, waved, and obscurely lobed: the base of the lip below forms a blunt spur along with the decurrent base of the column; which latter is short and broad, incurved, purple. *Anther-case* transversely oblong, yellow, with a blunt point at the top.

Fig. 1. Lip and Column, side view. 2. Column and Anther; front view: —*magnified.*

Pub. by S. Curtis Glazenwood Lower Nov. 1 1838.

Gongóra maculáta. Spotted Gongora.

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Class and Order.

Gynandria Monandria.

(Nat. Ord.—Orchideæ.)

Generic Character.

Perianthium explanatum. *Sepala* lateralia libera divaricata, supremum cum dorso columnæ connatum. *Pet.* minora columnæ medio adnata. *Labellum* cum basi columnæ continuum, liberum, unguiculatum, hypochilio explanato utrinque cornuto, epichilio verticali ancipiti (faciebus oppositis complicatis connatis) acuminato. *Columna* longissima, arcuata, clavata marginata. *Anthera* subbilocularis. *Pollinia* 2, linearia, in caudiculam cuneatam sessilia.—Herbæ *epiphytæ, pseudo-bulbosæ.* Folia *plicata.* Racemi *longissimi, flexuosi, multiflori. Lindl.*

Specific Character and Synonym.

Gongora *maculata ;* foliis 5-plicatis obovato-oblongis basi valde angustatis, sepalis lateralibus e lata basi angustatis, hypochilio oblongo subtus convexo basi obtuse bicorni apice truncato angulis acutis in cirrhis duobus producto, epichilio acuminato.

Gongora maculata. · *Lindl. Bot. Reg. t.* 1616.

This strange-flowered species of Gongora is, doubtless, nearly allied to our G. *atro-purpurea* (Bot. Mag. t. 3220), but distinguished not only by the colour, but the form of the different parts of the flower. It has been introduced at various times, and by Collectors from Demerara, and firstly by Mr. Moss of Otterspool, Liverpool. Our plant flowered in great perfection in July, 1837, and again in August of the present year (1838).

Descr. *Pseudo-bulbs* ovato-oblong, deeply-furrowed, bearing two broadly-lanceolate, plaited leaves at the extremity.

mity. From the base of the bulb the *scape* or *flower-stalk* arises, two feet long, curved, bearing a long raceme of very singularly-shaped flowers, of a rich yellow colour spotted with dark red in every part, resembling some strange insect. *Sepals* lanceolate, the margins revolute, the upper one very remote from the two lateral ones, erect, rising from the upper part of the long greenish column, the latter bent completely back, so as to meet behind the flower. *Petals* small, linear oblong, from the middle of the column, and standing forward. *Lip* also standing forward, laterally compressed, curiously wrinkled or folded, tapering into a setaceous point, and having two setaceous appendages or lobes arising from the upper side. *Anther* terminal, broader than the column. *Pollen-masses* linear, with a long, white stalk between them and the gland.

Fig. 1. Flower. 2. 2. Outer and inner view of an Anther-case. 3. Pollen-masses;—*magnified.*

Pub by. S. Curtis. Glazenwood Essex Nov 1 1838.

PENTSTEMON GLANDULOSUM. GLANDULAR PENTSTEMON.

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Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—SCROPHULARINEÆ.)

Generic Character.

Cal. pentaphyllus aut 5-partitus, bractea solitaria distante. *Cor.* ventricosa, bilabiata. *Stam.* didynamia, rudimento quinti filiformi sæpius barbato. *Antheræ* sejunctæ sæpius glabræ. *Caps.* ovata bilocularis, bivalvis polysperma. *Semina* angulata. *Lindl.*

Specific Character and Synonyms.

PENTSTEMON *glandulosum;* pubescenti-glandulosum, foliis radicalibus ovato-lanceolatis acutis dentatis petiolatis, caulinis subcordatis amplexicaulibus subintegerrimis, corollis ventricosis, staminis rudimento glabro.

PENTSTEMON glandulosum. *Dougl. in Herb. Hort. Soc.*—*Lindl. Bot. Reg. t.* 1262.

A handsome, and even in Scotland, perfectly hardy plant, native of dry, gravelly, or rocky mountain-torrents in the Rocky Mountains, lat. 47° North ; and at the base of the Blue Mountains on the banks of the Kooskooskee river, six thousand three hundred feet above the level of the sea, it occurs frequently. It was introduced to the Horticultural Society's garden by the late Mr. DOUGLAS, and it flowers during the months of June and July.

DESCR. *Stem* erect, a foot or a foot and a half and more high, erect, nearly simple, purple, clothed with fine glandular down. *Leaves* nearly glabrous above, slightly downy, but scarcely glandular beneath : radical ones ovato-lanceolate,

late, petiolate, serrated, those of the stem almost cordate, opposite, acute, concave, amplexicaul. *Peduncles* axillary, opposite and terminal, bearing three to four, subumbellate *flowers*, with two ovate leaves or bracteas at their base. *Calyx* of five deep, unequal, hairy segments. *Corolla* large, bluish-purple, glanduloso-pubescent, the *tube* ventricose, two-lipped, the lips standing forward, *upper* two-lobed, the margins reflexed, *lower* in three nearly equal lobes. *Anthers* two-lobed, the lobes pointing downwards, blue : *rudimentary stamen* subspathulate, glabrous. *Capsule* glabrous, as long as the persistent calyx.

Fig. 1. Sterile Filament :—*magnified.*

Pub by S Glazenwood Essex Nov 1 1838.

HELIANTHUS MOLLIS. SOFT-LEAVED SUNFLOWER.

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Class and Order.

SYNGENESIA FRUSTRANEA.

(Nat. Ord.—COMPOSITÆ.)

Generic Character.

Involucrum imbricatum, squamis subsquarrosis. *Receptaculum* paleaceum. *Pappus* diphyllus. *Spreng.*

Specific Character and Synonyms.

HELIANTHUS *mollis ;* foliis oppositis (supremis bracteantibus exceptis) ovato-lanceolatis triplinervibus supra scabris subtus glauco-pallescentibus lævibus glabris vel molliter pubescentibus inferioribus subgrosse serratis superioribus subintegerrimis, involucri foliolis lineari-acuminatis squarrosis, paleis tricuspidatis.

HELIANTHUS mollis. *Willd. Sp. Pl. p.* 2240. *Pursh, Fl. Am. v.* 2. *p.* 572. *Ell. Carol. v.* 2. *p.* 418. *Darl. Fl. Cestr. p.* 92.

In the Botanical Register, t. 524, is given a HELIANTHUS of North America, under the name of *pubescens*, VAHL, and the same species is represented at t. 2778 of the present work, where great doubts are expressed as to its being the real plant of VAHL and the American Botanists. It is, I believe, the H. *tomentosus*, MICH.; a name which, indeed, is introduced among the synonymy both by Mr. GAWLER and myself together with the H. *mollis ;* but I believe they are three distinct species. The H. *pubescens* has the leaves, as its author described them, truly ovato-cordate, and very villous, on both sides ; but whether H. *pubescens* be a variety of it or not may admit of doubt : whilst the H. *mollis* of WILLDENOW, and certainly of ELLIOTT, is free from hairs, except

except on the underside of the leaves (and there not always), and is remarkable for the deep green colour of the upper side of the foliage, and the pale and glaucous hue beneath; and is that which we have here represented. Our specimen, now figured, is from the Glasgow Botanic Garden. Native specimens I possess from the late Mr. Schweinitz of Bethlehem, Dr. Darlington of West Chester, and Dr. Short of Kentucky. It flowers about autumn.

Descr. Perennial. *Stems* erect, four feet or more high, branched above, generally deeply tinged with dark purple, more or less scabrous. *Leaves* opposite, the uppermost one alone excepted, mostly on very short footstalks, ovato-lanceolate, slightly tapering at the base, acuminated at the extremity, glabrous, scabrous and dark green above, below smooth, pale, glaucous, glabrous, or clothed more or less copiously with soft down, three-nerved, the margin rather distantly and not deeply serrated, the upper ones almost quite entire. The upper and alternate leaves are small, and may be considered *bracteas*. *Involucre* of many lanceolato-subulate, spreading or squarrose scales. *Receptacle* slightly convex, chaffy: *scales* or *paleæ* tricuspidate. *Florets* of the *ray* bright yellow: their abortive germens with two unequal, chaffy, subulate, opposite scales: those of the disk with generally two, sometimes more broadly subulate, soft, deciduous ones.

Fig. 1. Floret of the Ray. 2. Floret of the Disk:—*magnified.*

V Fitch Delt. Pub by. S. Curtis. Glazenwood Essex Mar 1858. Swan Sc

MERENDERA CAUCASICA. CAUCASIAN MERENDERA.

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Class and Order.

HEXANDRIA TRIGYNIA.

(Nat. Ord.—MELANTHACEÆ.)

Generic Character.

Corolla infundibuliformis, hexapetala: unguibus longissimis. *Stamina* petalis supra ungues inserta. *Capsula* supera.

Specific Character and Synonyms.

MERENDERA * *Caucasia*; antheris versatilibus, foliis lanceolato-linearibus patulis, flore cum foliis erumpente.

MERENDERA Caucasica. *Bieb. Fl. Tauc. Cauc. v.* 1. *p.* 293. *Ejusd. Centur. Pl. Rar. Ross. Merid. tab.* 5. *Roem. et Sch. v.* 7. *p.* 1524.

BULBOCODIUM trigynum. *Adam, in Web. et Mohr. Catal. v.* 1. *p.* 49.

COLCHICUM Caucasicum. *Spreng. Syst. Veget. v.* 2. *p.* 143.

A charming little bulbous plant, sent by Dr. FISCHER to the Glasgow Botanic Garden, where it produced its pretty blossoms, at the same time with the foliage, in the month of May, under the shelter of a glass frame. In the Caucasus, and in Middle Iberia, where it is a native, it blossoms in the very early part of spring.

DESCR. *Bulb* coated, pale, or more frequently of a dark brown, almost black colour, ovate, ragged at the top, whence

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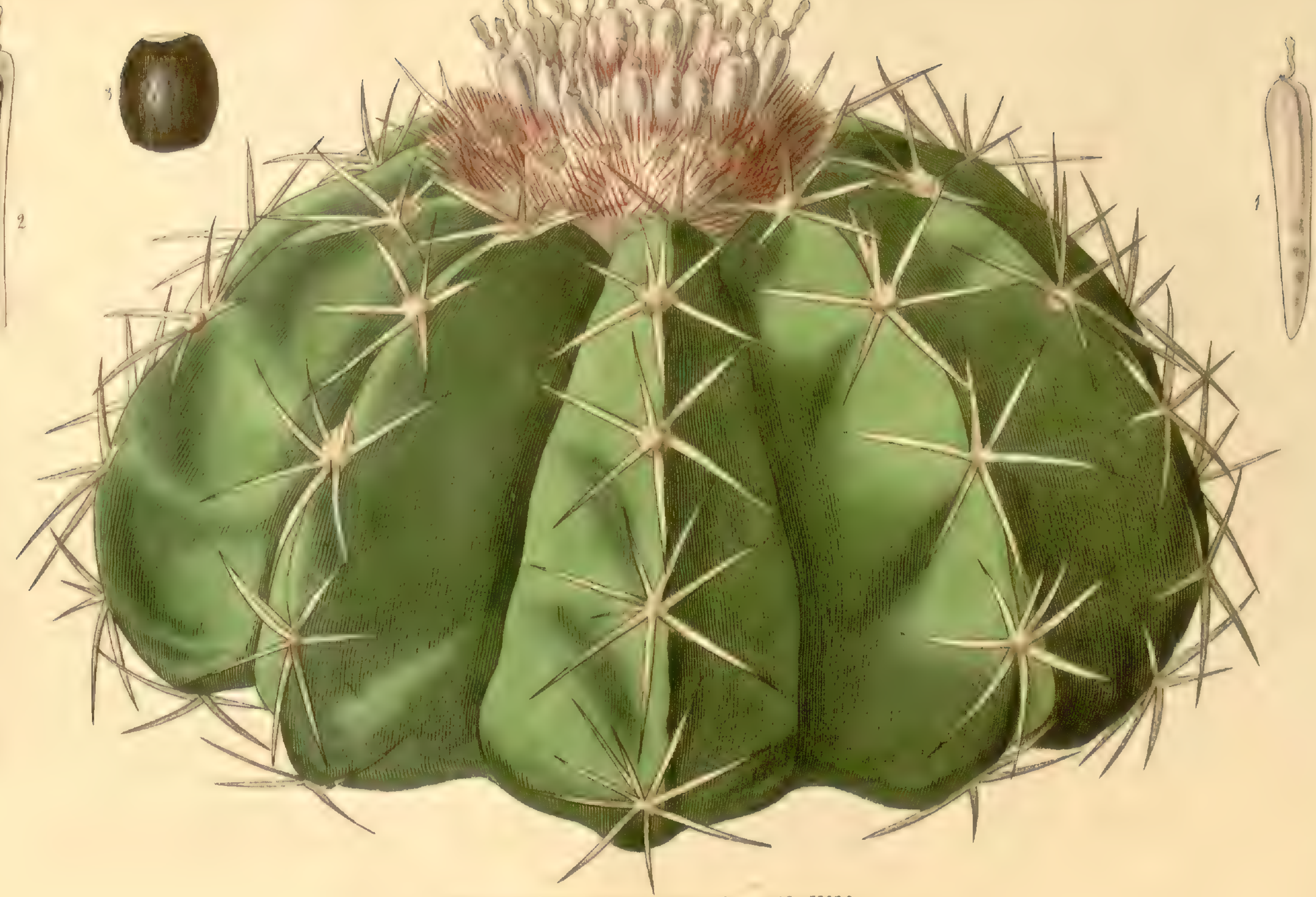
* A name given by the Spaniards to the COLCHICUM, a Genus which this so nearly resembles.

whence springs a long, membranous sheath or spatha, surrounding the base of the flowers and of the foliage. *Leaves* three, narrow-lanceolate, obtuse, channelled, much tapering at the base, shorter than the flowers. *Flowers* one to three from the same spatha: each consisting of six *petals*, with very long, narrow, slender claws, which meet so as to form a tube, arising from a very short peduncle: the *lamina* oblongo-lanceolate, obtuse, faintly striated, of a delicate rose colour tinged with purple. *Stamens* six, arising from the base of the lamina of each petal, and about half its length. *Anthers* oblong, yellow. *Style* very long, filiform.



Pub by S.Curtis. Glazenwood Essex Nov.1838.

Swan Sc

MELOCACTUS DEPRESSUS. DEPRESSED MELOCACTUS.

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Class and Order.

ICOSANDRIA MONOGYNIA.

(Nat. Ord.—CACTEÆ.)

Generic Character.

Calycis tubus ovario adherens, lobi 5—6 petaloidei fructum juniorem coronantes. *Petala* totidem cum petalis in tubum cylindraceum longe concreta. *Stam.* filiformia pluriserialia. *Stylus* filiformis. *Stigma* 5-radiatum. *Bacca* lævis calycis et corollæ lobis marcescentibus coronata. *Semina* nidulantia. *Cotyledones* minimæ. *D C.*

Specific Name and Character.

MELOCACTUS *depressus;* depresso-conicus basi multum latior profunde subdecem-angulatus, costis latis obtusiusculis, spinis 5—7 fasciculatis subulatis rectiusculis pallide fuscis basi lanuginosis, corona per-brevi lanuginosa, aculeis rubris.

This is one of the few CACTEÆ which have rewarded Mr. GARDNER's researches in the vicinity of Pernambuco, and from whence a number of this species were sent to Woburn Abbey, and to the Glasgow Botanic Garden. The flower is at present unknown, probably it is small and red, like what we know of other MELOCACTI: but they *had* blossomed freely previous to their having been embarked; and, after their arrival copious seed-vessels were produced, long, and of a delicate transparent rose-colour, which, rising in a circle considerably above the crown of red aculei, presented an appearance perhaps more striking than the flowers themselves.

Descr. Our largest specimen scarcely measures more than six inches across near the base, below which the plant is suddenly contracted, and above which it gradually becomes smaller to the height of about four inches, whence the crown springs: so that the shape of this Melocactus is that of a depressed cone with rounded sides: and this is deeply cut into about ten broad furrows, forming as many prominent costæ, the ridges and bottoms of the interstices forming moderately acute angles: upon each of these ridges are about four or five clusters of spines, of from five to seven spines in a cluster, subulate, strong, spreading, straight, or but very slightly curved, of a pale brown, or ashen-green colour. At their base is a small, dense, woolly tuft or scar. From the summit is a short *crown*, scarcely three-fourths of an inch high, and about two inches and a half in diameter, of a woolly substance, filled with exserted, red aculei, very crowded. *Fruit*, an oblong or rather club-shaped berry, about an inch long, of a delicate rose colour tipped with the withered flower: containing within several nearly globose, shining black, reticulated seeds.

Fig. 1. Berry. 2. Vertical Section of the same. 3. Seed:—*magnified*.

Pub by. S. Curtis. Glazenwood Essex. Nov 1838.

Swan S

PAVONIA SCHRANKII. SCHRANK'S PAVONIA.

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Class and Order.

MONADELPHIA POLYANDRIA.

(Nat. Ord.—MALVACEÆ.)

Generic Character.

Calyx cinctus involucello 5—15-phyllo. *Stigmata* 10.
Carpella capsularis, 5-valvis, monosperma. *D C.*

Specific Character and Synonyms.

PAVONIA* *Schrankii;* inermis, " foliis subcordato-ovatis acuminatis, inæqualiter serratis utrinque stellato-tomentosis, pedunculis 1-floris, involucris calyce brevioribus 5-partitis, carpellis inermibus.
PAVONIA Schrankii. *Sprengel, Syst. Veget.* 3. 98.
LEBRETONIA coccinea. *Schrank. Pl. Rar. H. Mon. t.* 90. *De Cand. Prodr.* 1. 446.

We received this plant from the Botanic Garden Berlin, in 1836. It flowered freely in the stove at the Botanic Garden, Edinburgh, in July, 1837 ; but though its blossoms are of considerable size, and not destitute of beauty, the plant will probably never be a favourite in cultivation, because its flowers are only expanded during the forenoon, and the shrub is coarse and in no degree attractive. It is a native of Brazil.

SPRENGEL unites LEBRETONIA with PAVONIA, and DE CANDOLLE questions the propriety of considering them distinct. The only part of the definition which seems to me to justify the separation, is the reported dehiscence of the carpels, which I have not found to take place.

DESCR.

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* So named in compliment to Don JOSEF PAVON, the companion of DOMBEY in Peru, and, in conjunction with RUIZ, the author of the valuable " Flore Peruviana."

Descr. *Shrub* erect; *branches* erect, and, as well as the whole plant except the corolla and parts within it, densely covered with coarse, harsh, reflected, yellowish hairs, which are distinctly stellate on both sides of the leaves. *Leaves* (three inches and a half long, an inch and a half broad) scattered, spreading wide, petiolate, ovate, subcordate at the base, acuminate, strongly veined and wrinkled, darker above than below, where the midrib and veins are very prominent, coarsely and unequally serrated; *petioles* about one-third of the length of the leaves. *Stipules* (half an inch long) slender, subulate, erect. *Peduncles* solitary, axillary, reaching nearly to the middle of the leaf, single-flowered. *Involucre* 5-partite, segments ovate, valvate and prominent at their edges near the base, five-nerved, with reticulated veins, wrinkled. *Calyx* longer than the involucre, five-partite, segments similar to those of the involucre, but rather less coarse, with the marginal nerves less conspicuous, at first erect, afterwards folded over the germen. *Corolla* (above an inch and a half long, two inches across when fully expanded) pentapetalous, orange-coloured, yellow at the base, *petals* imbricated and convolute, dolabriform, many-nerved, slightly tomentose, deliquescent in decaying. *Stamens* indefinite, monadelphous, inserted into the base of the petals, and uniting these to each other; *united filaments* slightly tomentose; gradually smoother upwards, free portion glabrous; *anthers* kidney-shaped, unilocular, opening along the top, attached loosely in the sinus to the filament. *Styles* ten, cohering for above one-third of their length, glabrous, each terminated by a small pencil-shaped, crimson-coloured stigma. *Germen* oblong, wrinkled, green, of five verticillate lobes, each containing a single oblong ovule, compressed at its inner side, and there attached near its base to a central placenta. *Carpels* dark brown, much wrinkled, subglabrous, glabrous and nearly white within, where they are seen evidently to be bivalvular, but are not, I think, dehiscent. *Seeds* kidney-shaped, pale brown, glabrous, except along the back where there are a few, and at either extremity where there is a tuft of yellowish hairs. *Graham.*

Fig. 1. Pistil:—*magnified.*

Pub by S.Curtis Glazenwood Essex Dec 1. 1838.

Cattléya guttáta; β. Russelliana. Spotted Cattleya; Lord Edward Russell's *var.*

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Class and Order.

Gynandria Monandria.

(Nat. Ord.—Orchideæ.)

Generic Character.

Petala membranacea vel carnosa, patentia, æqualia. *Petala* sæpiùs majora. *Labellum* cucullatum, columnam involvens, trilobum vel indivisum. *Columna* clavata, elongata, semiteres, marginata, cum labello articulata. *Anthera* carnosa, 4-locularis, septorum marginibus membranaceis. *Pollinia* 4, caudiculis totidem replicatis.—Herbæ *epiphytæ (Americanæ) pseudo-bulbosæ.* Folia *solitaria vel bina, coriacea.* Flores *terminales, speciosissimi, sæpè e spatha magna erumpentes. Lindl.*

Specific Character and Synonym.

Cattleya *guttata;* floribus carnosis, sepalis lineari-lanceolatis obtusis, petalis conformibus paulo latioribus undulatis, labelli trilobi lobis lateralibus ovatis obtusis, intermedio cuneato obcordato disco tuberculato, foliis concavis, spatha obsoleta. *Lindl.*

Cattleya guttata. *Lindl. Bot. Reg. t.* 1406.

(β.) *Russelliana;* elata, floribus subtriplo majoribus, sepalis petalisque intense fusco-viridibus. (Tab. nostr. 3693.)

This superb variety of a very handsome and uncommon Cattleya, was brought to the Woburn Collection from Brazil, together with many other rare South American vegetable productions, in the spring of 1838, by Capt. Lord Edward Russell, R. N., then commanding H. M. S. Actæon. It was given to that nobleman by the Director of the

the Botanic Garden at Rio, with the information, that it was one of two specimens that had recently been discovered in the Organ Mountains. In August of the same year, its lovely flowers were displayed, when the drawing here represented was made on the spot. Widely as the inflorescence differs in size and colour from Dr. Lindley's C. *guttata* above quoted, it cannot be considered otherwise than as a beautiful and stately variety, worthy of a place in every choice collection of epiphytes.

Descr. *Stems* clustered, three feet high, erect, but with a graceful curve, rounded and striated, jointed, about as thick as one's finger, of a silvery greenish-white, with green blotches. *Leaves* two from the top of the stem, large, six inches and more long, spreading, fleshy, oblong-oval, or elliptical, scarcely striated, somewhat concave. From between the leaves springs a short *spatha*, whence arises the *peduncle*, which is short, bearing a *raceme* of about five handsome, spreading *flowers*, each about five inches across. *Sepals* oblong-lanceolate, obtuse; *petals* similar to them, but waved at the margin; all of them of a rich greenish-brown colour spotted with purple. *Lip* short for a species of the present Genus; the side-lobes a delicate rose colour, the intermediate one, which is broadly wedge-shaped, red-purple, with deeper lines. *Column* scarcely longer than the side lobes of the lip.

Gladiolus Mortonius. (t. 3680.)

Mr. Herbert further observes, with regard to this species, that it *always blows in the winter*, and rests in the spring. G. *oppositiflorus* flowers very late, viz., at this season (Sept.), but *Mortonius* shows no signs of flowering yet.

W Fitch Del!

Pub by S. Curtis Glazenwood Essex Dec.1 1838.

Swan Sc

VERBÉNA TEUCRIOÍDES. GERMANDER-LEAVED VERVAIN.

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Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—VERBENACEÆ.)

Generic Character.

Calyx 5-fidus, dente unico subbreviore. *Corollæ limbus* irregulariter 5-lobus. *Stam.* inclusa. *Utriculus* tetraspermus, cito rumpens, ut maturi fructus caryopses sistant. *Spr.*

Specific Character and Synonym.

VERBENA *teucrioides;* erecta ramosa pilis rigidis sæpissime glandulosis ubique vestita, foliis oblongis lanceolatisve profunde incisis sessilibus, spicis elongatis densifloris, calycibus elongatis post anthesin tortis corollæ tubo duplo brevioribus.

VERBENA teucrioides. *Gill. et Hook. in Bot. Miscell.* 1. *p.* 167.

My first knowledge of this charming species of VERBENA was from specimens communicated by Dr. GILLIES from the highest ridge of the Uspallata Mountains in South America, at an elevation of ten thousand feet above the level of the sea. Afterwards Mr. TWEEDIE sent it from the hill of Monte Video, and more abundantly from the Sugar-loaf Mountain of Maldonado, marked "No. 461, VERBENA, with slightly purple flowers and highly odoriferous." In August, 1838, Mr. NIVEN of the Glasnevin Botanic Garden favoured me with a beautiful drawing, from which the accompanying figure is reduced, of the same interesting plant, which he received from the Earl of ARRAN, and about the same time Mr. HANDASIDE, Nurseryman, of Musselburgh, Edinburgh, passed

passed through Glasgow with a noble flowering specimen. Seeds gathered also at Tandil * by Mr. TWEEDIE had been sent to the Right Hon. the Earl of ARRAN, in whose garden the plant was first raised: and we cannot but regret that it is not an entirely new species, which we should have been glad, in that case, to have honoured with the name of that distinguished nobleman, a name which, as Mr. NIVEN observes, is almost identified with that of the beautiful Genus in question.

"The plant is of easy culture, appearing to luxuriate in a mixture of peat, loam, and sand, with a small portion of well-rotted cow dung. The delightful jasmine-like odour of the flowers is greatest and most powerful about dusk and during the night: towards midday it diminishes considerably, gradually increasing again towards the evening." (Mr. NIVEN)—The Messrs. HANDASIDE, of Musselburgh, possess Mr. NIVEN's entire stock of this fine plant, and they propose disposing of it in April of next year (1839).

DESCR. It will be at once seen that this VERBENA belongs to the MELINDRES group. The plant from which our drawing was made was about two feet high, erect, of very handsome growth; the lower part bearing numerous more or less spreading branches, the main stem terminating in a *spike* of dense *flowers*, a span or more long. The *tube* of the *corolla* very long; the *limb* of a delicate yellowish-white on first expansion, afterwards becoming purplish rose-coloured. In our native specimens the long tubular *calyx* is spirally twisted in age.

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* For an account of Mr. TWEEDIE's Journey to the Serras de Tandil see TAYLOR's Annals of Nat. Hist., vol. 1, p. 139.

Pub by S Curtis Glazenwood EssexDecel 1838.

Swan

COLLÍNSIA HETEROPHÝLLA. VARIABLE-LEAVED COLLINSIA.

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Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—SCROPHULARINEÆ.)

Generic Character.

Calyx 5-fidus, æqualis. *Corolla* bilabiata, tubo supra gibbo, limbo inæquali; labio superiore erecto bifido, inferiore trifido. *Stamina* didynama. *Capsula* globosa, 4-valvis, oligosperma.

Specific Name and Character.

COLLINSIA *heterophylla;* foliis inferioribus trilobatis, superioribus ovato-acuminatis; pedunculo floribus breviore, calycibus glanduloso-pubescentibus; laciniis corollæ apice rotundatis, crenatis, lobis medio labiorum inferiorum subacuto, labio superiore fauce subintegro.

This, the handsomest species of COLLINSIA yet known, was found by NUTTALL on the Columbia, and was raised at the Experimental Garden, Edinburgh, by Mr. JAMES M'NAB from seeds transmitted to him under the name adopted, by Mr. BUIST of Philadelphia in Spring last. From COLLINSIA *grandiflora* our plant is easily discriminated by its pubescent filaments and calyx; from C. *parviflora* and *verna* by its short peduncles; and from C. *bicolor* I have attempted to distinguish it, by its lobate lower leaves, by the coarser hairs on its calyx, by the rounded (not retuse) crenate segments of the corolla, by the sub-acute middle lobe of the lower lip, and by the nearly entire border to the upper side of the throat. It extremely nearly resembles C. *bicolor*, but the flowers are larger, and the character which

I have given may be sufficient to satisfy many of its being a distinct species, though, I confess, scarcely sufficient to take away my doubts. I have not, however, seen modified forms run riot among North American as among South American species, and therefore my scepticism is less than if the Genus had been met with south of the equator.

The condition of the Experimental Garden shows that Mr. James M'Nab, as a cultivator, has received the law at the feet of Gamaliel; and the gorgeous display of Buenos Ayres Verbenas which his houses at present contain, proves by their infinity of form and shade, and minuteness of gradation, how few are species compared with diversity in these particulars.

Descr. *Root* annual. *Stem* erect, *branches* divaricated, ascending, slightly pubescent when young. *Leaves* glabrous, distantly serrated, paler below, darker above, lower ones three-lobed and petiolate, the upper ovate, subsessile. *Bracteæ* opposite, lanceolate, linear. *Flowers* large and handsome, very much resembling those of C. *bicolor*, to which it is certainly nearly allied,—the lower opposite and solitary, the upper in crowded whorls. *Calyx*, like the common peduncle, glanduloso-pubescent on the outside, coarsely hairy within, ventricose at its base, its rather short, blunt segments spreading. *Corolla* (seven-eighths of an inch long, above an inch across at its longest diameter) with a few long hairs scattered over the upper surface, slightly glanduloso-pubescent on the lower, the inside of the tube having long coarse hairs, the lobes of the upper lip and the lateral lobes of the lower lip rounded and crenate in the apex, the central lobes straight and subacute, the prominent ridge projecting into the throat from the upper lip, subentire. The colour of the *flower* is deep lilac over the whole of the lateral lobes except at the throat, at the tip of the middle lobe and at the tip and base of the upper lip; every where else the flower is white, but, in front of the upper lip, the white portion is sprinkled with lilac spots. *Fertile stamens* about as long as the middle lobe of the lower lip; *filaments* hairy, along their upper side; *anthers* orbiculate, kidney-shaped, orange, bursting along the edge; *abortive stamen* subulate, green, without appearance of anther. *Pistil* glabrous; *stigma* minute; *style* much declined. *Germen* green, ovate. *Graham.*

Fig. 1. Lower portion of the Stem, showing the divided Leaves; *nat. size.* 2. View of the underside of a Flower, showing the curious projecting ridge of the lower Lip:—*magnified.*

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W Fitch Del.

Pub by. S. Curtis . Glaxenwood Essex Dec.r 1838.

Hypóxis stellipílis. Starry-haired Hypoxis.

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Class and Order.

Hexandria Trigynia.

(Nat. Ord.—Hypoxideæ.)

Generic Character.

Spatha bracteiformis. *Corolla* 6-partita plana, extus calycina persistens. *Discus* nectariferus staminifer. *Stigmata* 3. *Capsula* 3-locularis, non dehiscens. *Semina* globosa, strophiolo rostrato. *Spr.*

Specific Character and Synonym.

Hypoxis * *stellipilis;* rhizomate ovato, foliis radicalibus plurimis trifariam fasciculatis triquetris-subulatis e pilis brevibus stellatis implexis subtus tomentoso-candicantibus, canaliculo carinaque acutis, umbella 2—4-flora.

Hypoxis stellipilis. *Ker, Bot. Reg. t.* 663.

A very pretty species of the Genus Hypoxis, first introduced from the Cape of Good Hope by Messrs. Colvill, and lately sent to the Glasgow Botanic Garden by Baron von Ludwig. It flowered vigorously in the greenhouse in July, 1838, having been treated in the manner usually required by Cape bulbs and tubers.

Descr. *Root* consisting of an egg-shaped *rhizoma* or *tuber*, of a dark brown colour, marked with transverse lines, and bearing a few coarse fibres. From the summit of this tuber springs a cluster of *leaves* trifariously arranged. These

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* υπο, *underneath*, and οξυς, *sharp*, alluding, Sir James Smith supposes, to the tapering base of the inferior capsule.

These leaves are half a foot long, linear-subulate, much tapering, striated, acutely keeled, dark green and glabrous above, beneath very pale coloured, owing to a covering of closely-placed, minute, stellated hairs, whence the specific name. *Scapes* one to two from the same root, among the leaves, but much shorter than they, bearing from two to four large handsome star-shaped *flowers*. The scapes and pedicels and outside of the flower are clothed with long and soft hairs. *Sepals* oblong, spreading, bright yellow within, greenish externally. *Stamens* six, spreading: *Filaments* short: *Anthers* oblong, orange-coloured. *Germen* inferior, small, obconical: *Style* short: *Stigmas* three.

Fig. 1. Flower, from which the Sepals are removed:—*magnified.*

W Fitch Del. Pub by S Curtis Glasenwood Essex Dec 1 1838.

PASSIFLÓRA INCARNÁTA. YELLOW-FRUITED VIRGINIAN PASSION-FLOWER.

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Class and Order.

MONADELPHIA PENTANDRIA.

(Nat. Ord.—PASSIFLOREÆ.)

Generic Character.

Calycis tubus brevissimus, faux corona filamentosa multiplici ornata. *Bacca* sæpius pulposa, rarius membranacea. *De Cand.*

Specific Character and Synonyms.

PASSIFLORA *incarnata ;* foliis profunde trilobis glabris argute serratis lobis lato-lanceolatis, petiolo supra medium biglanduloso, stipulis minimis subulatis, pedunculis axillaribus solitariis folium æquantibus unifloris, bracteis sub florem tribus parvis cuneatis argute serratis infra serraturis grosse 1—3-glandulosis, calycis tubo subnullo, corona corollam paululum superante, germine pubescente.

PASSIFLORA incarnata. *Linn. Sp. Pl. 2. p. 1360. Amæn. Acad. vol. 1. p. 230. t. 10. f. 19. a—e (mala.) Pursh, Am. vol. 2. p. 445. Elliott, Carol. v. 2. p. 154. De Cand. Prodr. v. 3. p. 329.*

(β.) *integriloba ;* foliorum lobis integerrimis.

PASSIFLORA incarnata, δ. *Ker, Bot. Reg. t. 332.* (excl. the reference.)

Although an inhabitant of the southern States of North America, and introduced to our gardens more than two hundred years ago, this handsome *Passion-Flower* has been but little understood, never well figured, and strangely confounded by many Botanists with the P. *edulis*, a species satisfactorily determined by Mr. BROWN and Dr. SIMS, at

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t. 1989 of this work. The same species (P. *edulis*) is also well represented by Mr. KER in Bot. Reg. t. 152 as P. *incarnata*, β; while the *incarnata*, δ, of the last-mentioned work is an entire-leaved variety of our plant, with the peduncles much shorter than I have ever seen them in reality. The two species are abundantly different in the following particulars. P. *incarnata* has comparatively small serratures to the leaves, the petiolary glands much below the blade of the leaf, very long *peduncles* which are generally equal in length to the leaf; three small bracteas under the flower, set so apart, however, as not to form an involucre, minutely serrated in the upper half, and having from one to three large glands below where the serratures commence; a large flower with no distinct tube at the base of the calyx, and a purplish-blue filamentous crown, rather longer than the calyx and corolla.—In P. *edulis* the leaves are more coarsely serrated, the two glands at the very apex of the petiole, the *peduncles* are much shorter than the leaves, the *bracteas* are three, large and very deeply serrated, forming an *involucre* under the flower, the serratures often glandular: the base of the calyx is contracted into a tube, and the filamentous crown is much paler and shorter than the corolla. The *germen* is sometimes downy in P. *edulis*, but the colour of the fruit is said to be different in the two; lurid purple in the last-mentioned; yellow in our plant: from which circumstance I have derived our English specific name, for I have never seen any thing flesh-coloured about the blossom. P. *incarnata* extends from Virginia to the extreme southern point of the States, and I believe not of South America. It is No. 121 of Mr. DRUMMOND'S Louisiana Collection. P. *edulis* I have never received in a wild state, except from Brazil.

Fig. 1. Glandular Bractea from the Peduncle:—*magnified.*

Málva Creeána. Showy Red-flowered Mallow.

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Class and Order.

Monadelphia Polyandria.

(Nat. Ord.—Malvaceæ.)

Generic Character.

Calyx cinctus involucro triphyllo, rarius 5—6-phyllo, bracteolis oblongis setaceisve. *Carpella* capsularia, plurima in orbem disposita. *D C.*

Specific Name and Character.

Malva *Creeana;* fruticosa, ramis suberectis, foliis trilobatis incisis subundulatis deltoideo-ovatis stellato-hispidis basi integerrimis, floribus solitariis axillaribus, petalis obcordatis subcrenatis, pedunculis petiolo brevioribus, involucri foliolis filiformibus.

Malva Creeana. *Hort.*

This, though a small flowered, is an extremely pretty species of *Mallow,* and very deserving of cultivation in the Greenhouse, where it flowers freely in June and July. We received it at the Edinburgh Botanic Garden, in 1837, from Mr. Pince, Nurseryman, Exeter; but I know nothing of its history or of the country from whence it was imported. In the arrangement of the species, it seems to me, that it should be placed near to Malva *divaricata.*

Descr. *Stem* shrubby, branched; branches erect, closely covered with harsh stellate hairs. *Leaves* petiolate; petioles somewhat flattened above, covered like the stem with similar hairs; lamina rather longer than the petiole, deltoideo-ovate, blunt, somewhat undulate, green and sparsely covered with stellate pubescence above, white and more closely covered with similar pubescence below, the upper leaves

leaves trilobate, with the central lobe elongated, the lower less deeply cut into lobes, but all coarsely and unequally incised, the segments blunt and reflected at their apices; *stipules* filamentoso-subulate. *Flowers* axillary, solitary, on peduncles shorter than the petioles. *Involucre* of three filiform leaves. *Calyx* longer than the involucre, deeply five-cleft, pubescent on the outside, subglabrous and shining within. *Corolla* of a uniform rose-colour, cup-shaped, *petals* obcordate, and slightly crenate, glabrous except at their insertion, where they are ciliated. *Staminiferous column* hairy. *Pistil* equal in length to the stamens, rather shorter than the petals. *Styles* about fifteen, combined to about the middle. *Germen* hairy. *Graham*.

Fig. 1. Calyx and Pistil, with Bracteas :—*magnified.*

W. Fitch del.

Pub. by S. Curtis Glasshouse Jan.y 1839

Swan Sc.

LEYCESTÉRIA FORMÓSA. HANDSOME LEYCESTERIA.

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Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—CAPRIFOLIACEÆ.)

Generic Character.

Calyx superus, limbo 5-partito inæquali. *Corolla* infundibuliformis, tubo supra basin gibboso, limbo 5-fido subæquali. *Filamenta* exserta. *Stigma* capitatum. *Bacca* calycis limbo coronata, 5-locularis, polyspermæ. *Semina* lævia, nitida.

Specific Name and Synonyms.

LEYCESTERIA * *formosa.*
LEYCESTERIA formosa. *Wallich, in Roxb. Flora Indica, Carey's edition, v. 2. p.* 182. *D C. Prodr. v.* 4. *p.* 338. *Wallich, Plantæ Asiaticæ Rariores, tab.* 120.

This plant was sent to the Botanic Garden, Edinburgh, from the London Horticultural Society in 1837, and flowered pretty freely in July, 1838, in moderate heat.

This plant is a native of the Himalaya Mountains, and is handsome, but its flowers are not very conspicuous, and the bracteas are not deeply coloured when grown under glass. It is probable, that the incised state of the leaves also arises from cultivation, for this peculiarity is not mentioned in the

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* Named by Dr. WALLICH in compliment to his highly esteemed friend WILLIAM LEYCESTER, Esq., Chief Judge of the principal Native Court, under the Bengal Presidency, who, during a long series of years, and in various distant parts of Hindostan, has pursued every branch of horticulture with a munificence, zeal, and success, which abundantly entitle him to that distinction.

the description of native specimens, nor figured by Wallich. (—That author speaks of it as " a charming shrub, growing wild on the highest mountains surrounding the valley of Nepal, blossoming from April to October. Its fruit ripens at the end of the rains, and during the commencement of winter. I have also had it from much more northerly situations towards Gossain Than. According to my friend Dr. Govan, it is found in abundance at an elevation seldom less than eight thousand feet above the plains, among the Pine and Oak forests of Bishuhur, as at Hutto, and at Desoo in the Thakooraee of Kioonthul, blossoming from June till August, and called by our natives *Nulkuroo.*")

Descr. *Shrub* branching, dark brown and cracked; *branches* opposite, ascending, glabrous, the twigs of a delicate, subglaucous green. *Leaves* (four inches and a half long, three and a half broad) petioled, broadly ovato-cordate, inciso-lobate, smaller and more entire upwards, acuminate, veined, above of the same colour as the twigs and glabrous, below paler and slightly pubescent. *Petioles* much shorter than the leaves, generally red, channelled above, and stem-clasping. *Flowers* in verticillate, bracteate, cernuous spikes, terminal, or in the axils of the upper leaves. *Bracteas* large, cordato-ovate, acuminate, red-purple, veined, somewhat hairy. *Calyx* persisting, superior; *limb* five-parted, segments very unequal, subulate, glanduloso-pilose, its throat much contracted, and, with that portion which is dilated over the adhering germen, scattered with purple glandular hairs. *Corolla* (nine lines long, seven across the expanded limb,) white, funnel-shaped, with a small globular dilatation at its base, where it is inserted into the base of the calyx-throat, glabrous, its limb five-partite; *lobes* ovate, blunt, spreading; *nectariferous glands* five at the base of the tube. *Stamens* five, as long as the corolla, inserted into this and adhering to it, as far as the throat where they alternate with yellow streaks, below they alternate with the nectaries, *filaments* glabrous, filiform; *anthers* versatile, bilocular, bursting along the face; *pollen* cream-coloured, its *granules* small, globular. *Pistil* longer than the flower. *Stigma* capitate, obscurely and unequally lobed; *style* filiform, glabrous, articulated at the base. *Germen* five-locular; *ovules* very numerous, pendulous from central receptacles. *Graham.*

Fig. 1. Flower and Bractea. 2. Calyx and Pistil :—*magnified.*

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W. Fitch Del.t

Pub. by S. Curtis, Glazewood Place, Jan.y 1.1839

Swan Sc

LEONÓTIS NEPETÆFÓLIA. CATMINT-LEAVED LEONOTIS.

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Class and Order.

DIDYNAMIA GYMNOSPERMIA.

(Nat. Ord.—LABIATÆ.)

Generic Character.

Calyx 10-striatus, 6—10-dentatus. *Corolla* galea elongata, barbata, integra; labium inferius nanum, 3-fidum: laciniis subæqualibus. *Antheræ* lobis divaricatis. *Stigma* labio superiore brevior. *Br.*

Specific Character and Synonyms.

LEONOTIS * *nepetæfolia*; herbacea, foliis ovatis crenatis, calycis dentibus omnibus spinosis supremo maximo ovato, corollis (coccineis) calyce vix duplo longioribus. *Benth.*

LEONOTIS nepetæfolia. *Br. Prodr. Nov. Holl. p.* 504. *Ker, Bot. Reg. t.* 281. *Benth. Lab. p.* 618.

PHLOMIS nepetæfolia. *Linn. Sp. Pl. p.* 820.

LEONURUS nepetæfolia. *Mill. Dict. n.* 2.

LEONURUS globosus. *Mœnch, Meth. p.* 400.

Six species of this handsome Genus are enumerated by Mr. BENTHAM in his valuable work on the LABIATÆ, all of them natives of Africa: but the present one is found also in various parts of the continent of India and adjacent islands, and (probably imported) even in Brazil: and we have specimens also from Trinidad and Demerara. Seeds are not unfrequently sent to this country, and occasionally cultivated in the stove, though the plant is often too tall, and its leaves

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* From λεων, a *lion*, and ους ωτις, *an ear*, from a fancied resemblance in the flowers to the ears of that animal.

leaves too coarse and common-looking to render it a general favourite. The specimen here figured flowered in the stove of the Botanic Garden in July, 1837.

Descr. *Stem* tall, herbaceous, acutely four-angled, and furrowed between the angles, obsoletely downy. *Leaves* remote, in opposite pairs, on very long stalks: the lower ones large and broadly heart-shaped, very coarsely serrated, gradually becoming smaller, narrower, and less serrated upwards, till at length they are linear, entire, and scarcely an inch long. *Flowers* in dense, axillary, remote *clusters*, frequently two to three inches in diameter. *Bracteas* linear-lanceolate, spinous. *Calyx* an inch long, tubular, narrow below and hairy; *upper tooth* large, ovate, tapering into a sharp spine, three lower ones reflexed, two side ones small. *Corolla* scarcely longer than the calyx, bright red, and densely clothed with red velvety hairs, the margins ciliated. *Anthers* yellow, protruded.

Fig. 1. Flower:—*nat. size.*

W. Filch Del.t

Pub by S. Curtis Glaxenwood Essex Jan.y 1.1834

Swan Sc

STÁTICE PUBÉRULA. DOWNY-LEAVED CANARY THRIFT.

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Class and Order.

PENTANDRIA PENTAGYNIA.

(Nat. Ord.—PLUMBAGINEÆ.)

Generic Character.

Flores spicato-paniculati. *Calyx* 1-phyllus, plicatus, subscariosus. *Petala* 5, subconnata. *Stamina* basi petalorum inserta. *Utriculus* 1-spermus, calyce inclusus.

Specific Character and Synonym.

STATICE * *puberula;* foliis obovatis obtusis planis mucronatis integerrimis longe petiolatis utrinque stellato-pubescentibus, pedunculo bialato sparse stellato-pubescente-dichotome corymboso, ramis ultimis erectis triquetris, calycibus obtusis crenatis.

STATICE puberula. *Webb, Bot. Reg. t.* 1450.

This plant flowers freely in the greenhouse in the Botanic Garden, Edinburgh, and is ornamental, both when the white corollas are expanded, and after they have fallen, when the purple calyces remain as its only ornament. Professor LINDLEY notices a resemblance between this and S. *furfuracea* of LAGASCA. I do not recollect to have seen S. *pectinata*, AIT., but judging from the description, I have a doubt whether it be different from our plant, which, as well as it, is from one of the Canary Islands.

The figure in Bot. Reg. has far more acute leaves than the plant ever acquired with us.

DESCR.

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* From στατιζω, *to stop;* from some of the Genus having been employed to check dysentery.

Descr. *Stem* short and branching. *Leaves* obovate, flat, with a slender recurved mucro, a prominent middle rib, and a few obscure veins, stellato-pubescent and glaucous on both sides, attenuated into a long petiole. *Peduncle* erect, round at the base, above compressed, twice or thrice dichotomously corymbose, branches with two wings, the subdivisions near the top secund and erect, and the ultimate branches triquetrous. *Bracteæ* reddish, pubescent, sheathing, blunt. *Calyx* twice as long as the bracteæ, blunt, crenate, purple. *Corolla* white, funnel-shaped, claws long, laminæ obcordate. *Stamens* about as long as the corolla. *Styles* very slender. *Germen* green, glabrous. *Graham.*

Fig. 1. Flower and Bracteas:—*magnified.*

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W. Fitch Del.° Pub by. S. Curtis. Glazenwood Essex Jan.y 1839 Swan Sc

Trifólium hýbridum. Mule White Trefoil; or Tall Dutch Clover.

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Class and Order.

Diadelphia Decandria.

(Nat. Ord.—Leguminosæ.)

Generic Character.

Calyx tubulosus, persistens, glandulosus, 5-fidus, laciniis subulatis. *Carina alis* et *vexillo* brevior. *Stamina* diadelpha. *Legumen* parvum, vix dehiscens, sæpiùs ovatum, 1—2-spermum, calycem paululùm superans.—Herbæ. Stipulæ *petiolo adnatæ.* Folia *palmatim tri- aut rarissimè 5-foliata.* Flores *capitati aut densè spicati, bracteati, purpurei, albi aut ochroleuci.* Petala *in quibusdam omnia inter se basi coalita.*

Specific Character and Synonyms.

Trifolium *hybridum*; glabrum, caule erecto flexuoso fistuloso polycephalo, foliis longe petiolatis foliolis obovatis ellipticisve serrulatis, stipulis latis membranaceis acuminatis, capitulis globosis subumbellatis, floribus demum deflexis, laciniis calycinis subæqualibus tubum æquantibus, leguminibus " dispermis."

Trifolium hybridum. *Linn. Sp. Pl. p.* 1079. *Sm. in Rees' Cycl.—Wahl. Fl. Suec. v. 2. p.* 468. *(vix De Cand. Prodr. v. 2. p. 200.)*

Trifolium Michelianum. *Savi—De Cand. Prod. v. 2. p.* 201.

Trifoliastrum pratense, &c. *Mich. Gen. t. 25. f. 2.* (not 6.)

Melilotus qui Trifolium orientale, &c. *Vaill. Par. t. 22. f.* 5.

A native, it would appear, of a large portion of the continent of Europe, from Italy to Sweden, and not unworthy

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a place in the flower-border on account of its pretty, numerous, and long-continued flowers, and of being cultivated in the fields as an excellent food for cattle. Our plant, which flowers in June and July in the Glasgow Botanic Garden, entirely accords with Sir James Smith's description, drawn up from the original specimen of Linnæus, and also with the figures to which he and Linnæus refer. With this, the T. *Michelianum* of Savi and De Candolle seems to correspond: but whether the T. *hybridum* of those authors be really different, or only a variety, I cannot take upon me to determine, without having recourse to authentic specimens.

Descr. *Plant* everywhere glabrous. *Stems* several from the same root, simple or slightly branched, hollow, striated, zigzag, erect, about a foot high. *Leaves* upon long footstalks: *leaflets* varying considerably in shape, ovate or oblong, sometimes nearly obovate, not unfrequently rhomboidal, sharply serrated. *Stipules* large, broadly ovate, acuminate, membranous, white, streaked with green. *Peduncles* solitary, axillary, much longer than the leaf, erect, or nearly so, striated. *Head of flowers* globose, dense. The flowers at first erect, and then pale rose coloured, at length reflexed with the corollas persistent, orange brown. *Pedicels* short. *Calyx* white, membranous, with five green ribs, and five nearly equal, subulate teeth as long as the tube. *Vexillum* acuminated. *Wings* blunt, much shorter than the vexillum, a little longer than the rather acute keel.

Fig. 1. Flower:—*magnified.*

W. Fitch Del.

Pub by S. Curtis Glarenwood Essex Jan.y 1. 1839

Swan Sc.

PHACÉLIA TANACETIFÓLIA. TANSY-LEAVED PHACELIA.

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Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—HYDROPHYLLEÆ.)

Generic Character.

Corolla decidua. *Ovarium* ovoideo-globosum, piloso-hispidum. *Placentæ* lineares, sæpius dorso parietibus ovarii adnatæ, biovulatæ. *Capsula* dissepimentis subcompletis pseudo-bilocularis.—Herbæ *annuæ vel perennes, erectæ vel diffusæ.* Flores *racemosi, densi, sessiles, vel laxi pedunculati, cymis unilateralibus simplicibus vel dichotomis. Benth.*

Specific Character and Synonyms.

PHACELIA *tanacetifolia ;* scabro-hispida, foliis æqualiter pinnatis, pinnis pinnatifidis segmentis ovatis inciso-dentatis, spicis densis circinnatis corymbosis, calycis laciniis linearibus patenti-hispidis, staminibus exsertis.

PHACELIA tanacetifolia. *Benth. in Linn. Trans. N. S. v.* 1. *p.* 479. *Lindl. Bot. Reg. t.* 1696.

An inhabitant of California, whence its seeds were sent by Mr. DOUGLAS to the Horticultural Society of London. It is a species in some respects approaching my PHACELIA *congesta* (Bot. Mag. t. 3452) discovered by Mr. DRUMMOND in Texas almost at the same time that the present species was detected on the Pacific side of North America. But besides the difference in foliage, the present species has the flowers much more spicate, of a more purplish colour, and less vivid hue: still it is a most desirable addition to our hardy annual plants: flowering in June and July.

DESCR. *Stem* erect, but weak, rounded, branched, succulent

culent and brittle, clothed with scattered hairs, so rigid as to be almost prickles. *Leaves* rough with short rigid hairs, alternate, five to six inches long, ovate in their circumscription, pinnated with equal pinnæ, or only becoming gradually smaller at both extremities: these pinnæ are oblong-lanceolate, patent, pinnatifid, the segments ovate, obtuse, inciso-dentate; the *rachis* grooved above. *Peduncles* terminal, elongated, bearing a *corymb* of from four to six *spikes* of dense, unilateral, circinnate *flowers:* the lower ones on short *pedicels*. *Calyx* cut into five very deep, unequal, linear segments, which are erect, and clothed with long, patent, rather rigid, white hairs. *Corolla* longer than the calyx, subcampanulate, reddish-purple, five-lobed: within the tube, alternating with the lobes, are five pairs of delicate, fringed, and incurved scales, and between each pair arise the filaments of the stamen, which are longer than the corolla. *Germen* ovate, clothed with long, silky hairs above. *Style* bifid, or almost bipartite, the segments filiform. *Stigmas* acute.

Fig. 1. Flower. 2. Portion of the Corolla with the Scales at the base of a Filament. 3. Anther. 4. Pistil:—*magnified*.

W. Fitch del.t Pub by S. Curtis, Glazenwood Essex Jan.y 1. 1839 Sw. imp.

MARSHÁLLIA CÆSPITÓSA. TUFTED MARSHALLIA.

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Class and Order.

SYNGENESIA ÆQUALIS.

(Nat. Ord.—COMPOSITÆ. Div. SENECIONIDEÆ. *D C.*)

Generic Character.

Capitulum homogamum. *Involucrum* 1—2-seriale, squamæ lineari-lanceolatæ æquales. *Receptaculum* convexum paleis linearibus acutis onustum. *Corollæ* tubulosæ 5-dentatæ, extus hirsutæ. *Styli* rami exappendiculati. *Achenium* turbinato-subquinquangulum, pubescens seu villosum. *Pappi paleæ* 5, enerviæ, ellipticæ, acuminatæ, integræ.—Herbæ *Boreali-Americanæ perennes*. Folia *alterna integra*. Capitula *terminalia solitaria purpurascentia non male Scabiosarum capit. referentia.* *D C.*

Specific Character and Synonyms.

MARSHALLIA *cæspitosa;* glabra cæspitosa, caule simplici aphyllo 1-cephalo, foliis elongato- et lato-linearibus subobtusis integerrimis, involucri squamis oblongo-linearibus obtusis, paleis receptaculi linearibus. *D C.*

MARSHALLIA cæspitosa. *Nutt. MSS. in Herb. nostr.—De Cand. Prod. v. 5. p.* 680.

MARSHALLIA is a Genus named in 1791, in compliment to Mr. H. MARSHALL, who wrote a Natural History of the Trees and Shrubs of North America, a country to which the species are wholly confined. MICHAUX called it PERSOONIA, an appellation which SMITH had dedicated to a different plant: and it is the TRATTENICKIA of PERSOON (not WILLD.). MICHAUX described three species, the M. *latifolia*, M. *angustifolia*, and M. *lanceolata*. A fourth, that now under consideration,

eration, was discovered by Mr. Nuttall in the Red River Territory, by Berlendier at Villa de Austin in Texas, and by Drummond in Galveston Bay of the same country. It was sent to the subscribers to the latter Naturalist in his third Texas Collection, n. 174, and seeds having been likewise transmitted from Galveston, they have succeeded, and the plants have flowered in July and August, in a cool frame of the Glasgow Botanic Garden. The species, it must be confessed, nearly approaches the M. *lanceolata*, which De Candolle has described, (erroneously, so far as my authentic specimens will enable me to judge,) as having obovate leaves; but I think it is really distinct, having much narrower scales to the involucre, and quite linear ones on the receptacle. De Candolle justly compares the plant to an Armeria, and a number of them cultivated close together have a very pretty effect to the eye.

Descr. *Root* perennial. *Stems* tufted, a foot or more high, simple, leafy only below, the rest quite naked, striated, slightly downy, especially upwards. *Leaves* lanceolate or linear-lanceolate, glabrous, three-nerved, entire, the lowest one tapering into a long slender stalk, the upper ones nearly sessile. *Head of flowers* solitary, large, convex. *Involucre* of many linear-lanceolate, nearly equal scales, in about two rows. *Florets* all tubular, five-cleft and deeply so, rose colour, afterwards white, downy externally. *Achenium* obovate, with five rough angles. *Pappus* of five broad, ovato-acuminate, serrated, membranous scales. *Anther-tube* considerably protruded, brown. *Scales* of the receptacle linear, much shorter than the flower.

Fig. 1. Flower. 2. Flower more advanced, with the Corolla withering. 3. Achenium and Pappus :—*magnified.*

1.

2.

Pub. by S. Curtis Glazenwood Essex Feb.y 1. 1839.

Swan S.

Oncídium Fórbesii. Mr. Forbes' Oncidium.

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Class and Order.

Gynandria Monandria.

(Nat. Ord.—Orchideæ.)

Generic Character.

Perianthium explanatum. *Sepala* sæpius undulata: lateralibus nunc sub labello connatis. *Petala* conformia. *Labellum* maximum, ecalcaratum, cum columna continuum, varie lobatum, basi tuberculatum v. cristatum. *Columna* libera, semiteres, apice utrinque alata. *Anthera* semibilocularis, rostello nunc abbreviato, nunc elongato rostrato. *Pollinia* 2, postice sulcata; *caudicula* plana; *glandula* oblonga.—Herbæ *epiphytæ, nunc pseudo-bulbosæ.* Folia *coriacea.* Scapi *paniculati vaginati, rarius simplices.* Flores *speciosi, lutei, sæpius maculati, raro albi. Lindl.*

Specific Name and Character.

Oncidium *Forbesii;* pseudo-bulbis oblongis sulcatis compressis monophyllis, folio lanceolato coriaceo, scapo paniculato multifloro, sepalis recurvo-patentibus petalisque (duplo majoribus) obovatis undulatis subunguiculatis, labelli disco basi tuberculato-cristato lobis lateralibus parvis oblongis intermedio maximo flabelliformi, columnæ alis parvis angulatis.

A very rare inhabitant of the Organ Mountains, where it was discovered by Mr. Gardner in 1837, and whence it was sent by the same zealous Collector to his distinguished patron, his Grace the Duke of Bedford at Woburn Abbey. I have named it in compliment to the very able Horticulturist who has the charge of that noble collection, and by whose

whose judicious care, so many rarities, both of Mr. Gardner and of other Collectors, have been brought to a high state of perfection. Among the dried specimens there is only one of this species, and that is marked "very rare: only one plant was found;" and that is numbered 442 of the Organ Mountains' Collection. In the stove at Woburn the specimen here represented blossomed in October, 1838. As a species, it comes near Oncidium *crispum*, Bot. Mag. t. 3499, but the panicle is much larger, bearing more copious flowers; these flowers are very differently coloured and marked: the crest and side-lobes, and still more the column, present also amply sufficient characters of distinction, the latter being considerably smaller, with very short, angled, by no means serrated, wings.

Descr. *Pseudo-bulbs* small for the size of the plant, oblong, compressed, sulcated, producing a solitary, lanceolate, coriaceous, rather acute, dark green *leaf*. *Scape* from the base of the pseudo-bulb, a foot or more high, and bearing a large, very handsome *panicle* of numerous *flowers*. *Sepals* obovate, small, somewhat clawed, recurvo-patent, waved: *petals* twice their size, patent, obovato-rotundate, shortly clawed, waved: they and the *sepals* are of a rich, glossy, reddish-brown colour, spotted, chiefly round the margin, with yellow;—the sepals are somewhat banded with the same colour; behind they are greenish. *Lip*, in colour resembling the petals, three-lobed; the disk at the base crested with unequal-sized tubercles, yellow, spotted with brown; the two side-lobes very small, oblong, the intermediate lobe large and fan-shaped. *Column* small and short, with two comparatively narrow and angled wings. *Anther-case* hemispherical, containing two small cells. *Pollen-masses* yellow, stalked, and bearing a small, oblong *gland* or *caudiculus*.

Fig. 1. Column and lower portion of the Labellum. 2. Inside view of the Anther-case. 3. Pollen-masses:—*magnified*.

W.Fitch Del.ª

Pub by S.Curtis Glazenwood 1839

Swan Sc

Eutóca divaricáta. Straggling Eutoca.

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Class and Order.

Pentandria Monogynia.

(Nat. Ord.—Hydrophylleæ.)

Generic Character.

Corolla decidua. *Ovarium* ovoideo-globosum, piloso-hispidum. *Placentæ* lineares, dorso parietibus ovarii adnatæ, 4-multi-ovulatæ. *Capsula* dissepimentis incompletis, semi-bilocularis.—Herbæ *annuæ (?) sæpius erectæ habitu* Phaceliæ, *rarius diffusæ vel divaricatæ.* Flores *racemosi densi sessiles, vel laxi pedunculati, cymis unilateralibus simplicibus vel dichotomis. Benth.*

Specific Character and Synonyms.

Eutoca *divaricata ;* caulibus dichotome divaricatis, foliis omnibus ovatis indivisis, placentis 12—20-ovulatis. *Benth.*

Eutoca divaricata. *Benth. in Linn. Soc. Trans. v.* 17. *p.* 278. *Lindl. Bot. Reg. t.* 1784.

A Californian plant, for which our gardens are indebted to the late Mr. Douglas. It is a hardy annual, which does not suffer in Scotland by the droughts of summer, as it is said to do in England. Its appearance, rather, is more injured, being of humble growth, from the soil being dashed upon its foliage and flowers by our rains. The drawing was made in August, when the plants were in the highest perfection in the Glasgow Botanic Garden.

Descr. Herbaceous, annual. *Stems* weak, flexuose, frequently decumbent and dichotomously branched, downy. *Leaves* hairy, remote, ovate, the lower ones on rather long *petioles*, the upper ones gradually with shorter stalks, and at length sessile ; all of them simple, quite entire. *Flowers*

in

in terminal heads, rather large, handsome. *Calyx* deeply 5-partite, with the laciniæ lanceolate. *Corolla* between rotate and campanulate, purplish-blue, veined, almost white at the base. *Stamens* five, nearly as long as the corolla, arising from its base, and having a white membranous scale alternating with them. *Pistil* oval, hairy ; *Style* filiform : *Stigma* bifid. *Capsule* separating into two valves, each valve bearing on the centre several large, oval, dotted *seeds.*

Fig. 1. Corolla. 2. Pistil. 3. Capsule. 4. Seed :—more or less *magnified.*

Mrs Withers delt. Pub by S. Curtis Glazenwood Essex. Febr 1. 1839. Swan Sc.

Polystáchia grandiflóra. Large-flowered Polystachya.

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Class and Order.

Gynandria Monandria.

(Nat. Ord.—Orchideæ.)

Generic Character.

Sepala erecta, acuta ; lateralibus majoribus cum basi producta columnæ connatis. *Petala* minora. *Labellum* sessile cum basi producta columnæ articulatum, trilobum. *Columna* semiteres, brevis. *Anthera* bilocularis. *Pollinia* 4 collateralia, equalia, per paria cohærentia.—Herbæ *epiphytæ caulescentes nunc pseudo-bulbosæ.* Folia *læviter nervosa.* Flores *paniculati, parvi, alabastris trigonis. Lindl.*

Specific Character and Synonyms.

Polystachia *grandiflora ;* pseudo-bulbis parvis monophyllis, folio lineari-oblongo carnoso, pedunculo terminali subunifloro, flore recto (non resupinato), sepalis mucronatis lateralibus quadruplo majoribus, petalis minutis oblongo-spathulatis, labello carnoso trilobo lobo intermedio cordato acuto.

Polystachia grandiflora. *Lindl. MSS.*

Limodorum cucullatum. *Afz. in Pers. Syn. Pl. v. 2. p.* 521.

Lindl. Gen. et Spec. Orchid. p. 185.

This extremely interesting plant is referred by Dr. Lindley to Polystachia, and no doubt correctly so ; but, I must confess, that my faith is somewhat shaken in the Genus, on seeing how closely this borders on Maxillaria, in which I had unhesitatingly arranged the present plant, till Dr. Lindley's decision was communicated to me by by Mr. Allcard. The only difference I can find between the

the two Genera is this, (which indeed is considered characteristic of the respective *Tribes* to which they are referred,) that in MALAXIDEÆ (including VANDA,) there is no real caudicula to the pollen-masses, while VANDEÆ, (where MAXILLARIA is placed) is furnished with an elastic or transparent strap or caudicula to the pollen-masses. But MAXILLARIA *squalens*, (Bot. Mag. t. 2955) M. *racemosa* (t. 2789), and M. *Parkeri* (t. 2729), and other acknowledged MAXILLARIÆ, are quite destitute of this caudicula. To whatever Genus, however, the present plant is referred, it is a very distinct and a very interesting one, a native of Sierra Leone, whence it was imported by our valued friend, JOHN ALLCARD, Esq. In October, 1838, it flowered in the stove of that gentleman, who obligingly sent us the accompanying drawing by Mrs. WITHERS, Botanical Painter to Her Majesty the Dowager Queen Adelaide, together with a specimen, from which the following account is drawn up.

DESCR. *Stems*, or *pseudo-bulbs*, slender, cylindrical, tufted; bearing a single linear-oblong, fleshy, dark green *leaf* at the extremity: from the base of this leaf and from the summit of the pseudo-bulb arises the *flower-stalk*, about equal in length with the leaf, sheathed with scales, and having a single erect (not resupinate), moderately large, greenish flower, with purple blotches: sometimes there are the rudiments of a second blossom. Every part of the flower, but especially the lip, is singularly firm, and between fleshy and coriaceous. *Sepals* slightly spreading: the lowest one the smallest: all concave, almost cucullate and mucronate at the point. *Petals* very small, oblongo-spathulate. *Column* very short, at least the free part, the rest remarkably decurrent with the lateral sepals. *Lip* obovato-oblong, three-lobed, the *disk*, with a large slightly elevated *gland*; the side-lobes incurved; the middle one cordate. *Anther-case* conico-obtuse, two-celled. *Pollen-masses* yellow, globose, two-lobed, fixed by a short, yellow stalk to an oblong, transverse, dark-brown *gland*.

Fig. 1. Front view of an inverted Flower, that is, in the usual position of the Flowers of an ORCHIDEA. 2. Lip. 3. Anther-case 4. Pollen-masses: —*magnified*.

MONACHÁNTHUS FIMBRIÁTUS. FIMBRIATED MONK-FLOWER.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Perianthium explanatum. *Sepala* et *petala* æqualia deorsum versa. *Labellum* posticum, carnosum, indivisum, ventricosum, sepalis multo majus. *Columna* brevis, crassa, mutica. *Anthera* et *pollinia* Cataseti.—*Epiphytæ* Cataseti *habitu*. *Lindl.*

Specific Character and Synonym.

MONACHANTHUS *fimbriatus;* labello longissimo fimbriato intus pubescente.
MONACHANTHUS fimbriatus. *Gardner, MSS.*

This plant certainly belongs to the Genus MONACHANTHUS, agreeing, as it does, with that species, M. *viridis*, on which LINDLEY founded the Genus, in general habit, in its mode of inflorescence, and in having all its sepals and petals turned in the same direction. The posterior situation of the labellum, which covers the other parts of the flower like a helmet, together with its fleshy structure, and the green colour of the blossoms, assimilate it with MONACHANTHUS. It differs from M. *viridis* in its slenderer and more tapering pseudo-bulbs, and the many-flowered scape, and still more remarkably in its three-lobed fringe and labellum, and the excavated column. Although I have twice met with M. *viridis* in blossom in the province of Rio Janeiro, yet as it always so happened that the anther and pollen-masses had disappeared, it is impossible for me to institute a comparison of the two species, so far as regards these organs.

I found it growing on dry sandy banks, beneath the shade of some low shrubs, beyond the village of Apipucas, about ten miles West from Pernambuco, in Nov., 1837.

Descr. *Pseudo-bulbs* about six inches long, bearing the scars of from six to eight leaves. Only one of the six pseudo-bulbs which were on the specimen that I found produced two lanceolate, acuminated, slightly plicate, three-ribbed *leaves*, about seven inches long; it was, however, covered with the withered sheaths of former leaves. *Scape* arising from the base of the leafy pseudo-bulb, fifteen inches long, with four articulations in its lower half, the base of each surrounded by a membranous sheath, about a quarter of an inch in length, split on one side. The upper portion of the scape bears nine alternate, pedicellated *flowers*; the three lower ones about an inch distant from each other, the upper ones only half an inch apart. *Pedicels*, including the germen, about an inch long, at first ascending, then curving a little downwards. At the base of each pedicel, there is an ovato-lanceolate *bractea*, about a quarter of an inch long, closely pressed to it. *Perianth* spreading open, entirely of a yellowish-green colour; *Sepals* three, linear, apiculate, submembranaceous, all turned downwards in a direction parallel to each other. *Petals* two, linear-oblong, fleshy, a little longer than the sepals, but equally turned in the same downward direction. *Labellum* posterior, fleshy, ventricose, a little flattened from above downwards, three-lobed; the lobes about equal, fringed with long, mostly bifid fimbriæ, those on the middle lobe shorter than on the lateral ones. *Column* declinate, somewhat triangular, its base bounded by a slightly elevated, entire, fleshy crest, with a sinus in its middle, which curves a little into the labellum; its middle portion excavated with a reniform opening, and its upper portion has a hollow for the reception of the *pollen-masses*. *Anther* hemispherical, crowned by a fleshy, strap-shaped body, which adheres to the side of it, but is free at the upper extremity; subbilocular. *Pollen-masses* two, ovate, compressed, sulcated behind, of a waxy yellow colour. *Ovary*, in its early state, cylindrical and sulcated.

Fig. 1. Flower. 2. Lip:—*magnified.*

W. Fitch. del. Lith by S. Curtis Glazenwood Essex Feb.y 1.1839. Swan Sc.

Sophronítis grandiflóra. Large-flowered Sophronitis.

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Class and Order.

Gynandria Monandria.

(Nat. Ord.—Orchideæ.)

Generic Character.

Pollinia 8, antice et postice parallela, caudicula duplici pulverea, glandula o? *Anthera* terminalis opercularis 8-locularis, cardine crasso. *Stigma* concavum rostello obtuso. *Columna* libera apice utrinque alata, alis integris conniventibus super cristam labelli. *Labellum* integrum cucullatum linguiforme, basi cum columna connatum, medio crista simplici transversa. *Sepala* subæqualia imbricata, basi libera.—Herbæ *epiphytæ (Brasilienses) monophyllæ, non bulbosæ, racemis axillaribus effusis pauciforis, floribus rubris. Lindl.*

Specific Character and Synonyms.

Sophronitis *grandiflora;* pseudo-bulbis oblongo-cylindraceis junioribus spathaceis apice monophyllis, folio elliptico, petalis elliptico-rotundatis, sepalis oblongo-lanceolatis subduplo minoribus, labello (parvo) trilobo, lobis lateralibus incurvis obtusis, intermedio acuminato planiusculo.

Sophronitis grandiflora. *Lindl. Sertum Orchidaceum, tab.* 5. *f.* 2.

Cattleya coccinea. *Lindl. Bot. Reg. fol.* 1919 *(in text.).*

Epidendre ponceau. " *Descourtilz's Drawings, pl.* 10. *p.* 27."

This lovely Orchideous plant is figured by Dr. Lindley from a drawing executed, as it would appear, in the native country of the species by M. Descourtilz, and he has, I think,

think, rightly followed the suggestion of making it a Sophronitis. The credit of introducing the plant alive to this country is due to Mr. Gardner, who found it in the Organ Mountains of Brazil and sent it home in 1837. The station given by M. Descourlitz is upon the high mountains that separate the district of Bananal from that of Ilha Grande.

Descr. *Pseudo-bulbs* clustered, oblong, rounded, the young ones clothed with cylindrical membranaceous *sheaths*, of which the upper one forms a kind of spatha to the base of the flower-stalk: the base of the bulb throws out a few greenish-white *roots*, the upper portion bears a solitary elliptical *leaf*, about two inches long. *Flower*, of which the narrow *ovary* tapers into a short *peduncle*, solitary; blossom large and very handsome, internally of an uniform red colour inclining to orange, with darker red streaks. *Sepals* and *petals* spreading horizontally and nearly flat: the former oblong-lanceolate, much smaller than the latter, which are elliptico-rotundate, slightly waved. *Lip* small, standing forward, ovate, the base yellow, three-lobed, obscurely bitubercled at the base: the two broad side-lobes involute so as to cover the column, the middle lobe acuminate, nearly flat. *Column* short, white, tinged with red, having a tooth or wing on each side the *stigma*. *Anther* with eight cells and eight almost triangular *pollen-masses*.

Fig. 1. Lip. 2. Inside view of ditto. 3. Side view of the Column. 4. Front view of ditto. 5. Anther-case showing the Cells. 6. Pollen-masses: —*magnified*.

W. Herbert Del.

Pub by S Curtis Glazenwood Essex Feb.y 1 1839

PHALOCÁLLIS PLÚMBEA. LEAD-COLOURED PHALOCALLIS.

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Class and Order.

TRIANDRIA MONOGYNIA.

(Nat. Ord.—IRIDACEÆ.)

Generic Character.

Perianthium infra crateriforme, sepalis majoribus superne patentibus, petalis superne compressis revolutis. *Filamenta* brevia conica basi connata apice reflexo. *Antheræ* loculis longis latere dehiscentibus medio angustiores superne styli lobis agglutinatæ. *Stylus* trigono-cyathiformis infra gracili-cylindricus, superne trilobus. *Stigmata* brevia transversa biloba obtusa emarginata, loborum cristis externis duâbus petaloideis reflexis, internis fere obsoletis. *Capsula* triquetro-oblonga tenuiter membranacea, operculo obsoleto (quoad vidi) indehiscens ; semina subplana alato-marginata. *W. H.*

Specific Character and Synonyms.

PHALOCALLIS *plumbea ;* foliis subglaucis plicatis acutis, caule foliis longe altiore 2—4-pedali bracteato ex axilla imi folii prodeunte, spathâ subtriunciali pedunculo trigono subæquali adpressâ, flore unico matutino fugacissimo, germine subunciali, sepalis circiter $3\frac{1}{2}$ unc. patentibus pallidè plumbeis inferne pubescentibus unguibus lutescentibus, petalis infra lutescentibus transversè maculatis, medio saturatioribus gibbis lateralibus purpureis pubescentibus, apice luteis subacutis, filamentis annulo ad basin purpureo medio bimaculatis, antheris connectivo pallido polline cæruleo, cristis in conum reflexis plumbeis, stylo et stigmatibus pallidis, seminibus badiis alato-marginatis circiter $\frac{3}{16}$ unc. latis. *W. H.*

CYPELLA plumbea. *Lindley, Bot. Reg. t. 24. Misc. Not. p. 71.*

This

This very remarkable plant, though its flower is delicate and beautiful, disappoints the expectation by producing, as far as I have seen, on its strong and tall stem only one blossom, which expands before sunrise, even in a dark room, and passes away ere noon. Some bulbs of this plant have been raised in England from Mexican seeds, and others have been received by Mr. ANDERSON of the Chelsea Garden, from Mr. OTTO at Berlin. The specimen here represented flowered in the autumn at Spofforth, being of the latter importation. The pot had stood out of doors all the summer, but the flower-buds appeared so late, owing to the unusual coldness of the season, that it was removed into the stove to promote the blossom. There was a considerable interval between the flowering of the bulbs. It will probably be found to succeed well under a South wall in the open ground. Dr. LINDLEY has referred it to the Genus CYPELLA; but on mature consideration, it does not appear that it can be properly united with it; and, although it seeds readily if the true stigma be touched with its own pollen, it refuses to cross with CYPELLA *Herbertiana*. On careful examination of the Natural Order to which it belongs, it appears that the crests of the stigmas or style and the dehiscence of the capsule are very material points, and and it disagrees with CYPELLA, in having the true stigma consisting of short two-lobed, transverse, tender lobes like those of IRIS, (whereas those of CYPELLA are long, acute, horny, and fringed on their upper surface,) and the outer crests petaloid, which in CYPELLA are horny; the inner crests soft and almost obsolete and imperceptible, whereas those of CYPELLA are stiff and erect. It has also a capsule without any prominent opercle, except a minute point, and has ripened its seed here without any dehiscence, the coat of the capsule being very thin and perishable; whereas the capsule of CYPELLA opens at the end by the sutures of a very prominent opercle. The seeds of PHALOCALLIS are nearly flat, with a thin margin, while those of CYPELLA are angular, and its whole fruit more like that of TIGRIDIA. The generic name is given from the delicacy of the cone formed by the crests. The proper generic character of CYPELLA will be,—" Perianthium et filamenta ut in *Phalocallide*. *Antheræ* loculis latere dehiscentibus basi latiores superne angustiores et styli lobis agglutinatæ. *Stylus* trigono-cyathiformis infra gracili-cylindricus superne trilobus. *Stigmata* distinctè biloba acuta porrecta cornea superne fimbriata, cristis acutis corneis, externis duâbus majoribus

majoribus reflexis, internis erectis. *Capsula* operculi prominentis suturis dehiscens. *Semina* angulata, *W. H.* Mr. KER referred CYPELLA *Herbertiana* to MARICA, with which it does not conform. The name MARICA was improperly substituted by SCHRÆBER for the CIPURÆ of AUBLET, and the latter appellation must be restored to *paludosa*. The name MARICA will be properly restricted to the plants which conform with *Northiana, Sabiniana,* and *cærulea,* distinguished generically by a coriaceous, reflexly dehiscent capsule with angular, oblong seeds, which are comparatively large, and by erect, acute, external and internal crests to the true stigmas, which are short and transverse. The root in that Genus is fibrous; the stalk flat, leaflike, and proliferous. CYPELLA *Herbertiana* has a branched stalk, with many-flowered spathes, and produces, from the beginning of July till November, a constant succession of flowers, which are not fugaceous, lasting, in cool weather, two or three days.*

This opportunity may be taken to record a remarkable new Genus, of which a live specimen in flower has been sent to Spofforth by Mr. LODDIGES, imported, as he states, from Valparaiso, being the first Cyrtanthiform plant found elsewhere than in South Africa. Nat. Ord. AMARYLLIDACEÆ. Sub. Ord. AMARYLLIDEÆ. § CYRTANTHIFORMES (next after GASTRONEMA). CYPHONEMA. *Pedunculi* erecti. *Germen* trigono-oblongum erectum. *Tubus* rectus infra gracili-cylindricus superne campanulatus. *Limbus* regularis reflexus. *Stylus* gracilis rectus stigmate trifario. *Filamenta* incurvata, sepalina tubi medio petalina altiùs adnata. Spec. 1. CYPHONEMA *Loddigesianum,* floribus binis $1\frac{3}{4}$ uncialibus subalbidis viridi-striatis. Named from the curved filaments. *W. H.*

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* Mr. LODDIGES, having been requested to reconsider whether the bulb of CYPHONEMA certainly came from Valparaiso, stated, that he had many bulbs imported from the Cape in the same house with his Chilian bulbs, and that, although he considered the CYPHONEMA to have been one of the latter, it is possible that there may have been a mistake. PHALOCALLIS *plumbea,* if protected from frost, seems disposed to preserve its foliage after flowering through the winter.

Dissections of PHALOCALLIS *plumbea.* 1. Style and Stamina, *magnified.* 2. Back of a Stamen straightened. 3. Front of ditto. 4. Style. 5. One Lobe thereof. 10. Seeds. 11. Ripe Capsule.—Of CYPELLA *Herbertiana.* 6. Front of a Stamen. 7. Back of ditto. 8. Style and one Stamen. 9. One lobe of the Style. 12. Ripe Capsule and Seed. The Capsules are not of the utmost size.

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In which the Latin Names of the Plants contained in the *Twelfth* Volume of the NEW SERIES (or *Sixty-fifth* of the Work) are alphabetically arranged.

Pl.

3654 Agave Americana, *var.* foliis variegatis.
3640 Aristolochia saccata.
3678 Arthrostemma versicolor.
3679 Aspasia variegata.
3649 Bartonia aurea.
3633 Carica citriformis.
3693 Cattleya guttata, β. Russelliana.
3669 ——— Mossiæ.
3656 ——— pumila.
3662 Centaurea depressa.
3651 Cereus pentalophus, β. subarticulatus.
3641 Chenopodium Quinoa.
3695 Collinsia heterophylla.
3644 Colletia horrida.
3648 Cymbidium triste.
3643 Dendrobium aggregatum.
3655 Diplacus puniceus.
3627 Echinocactus tubiflorus.
3658 Epacris microphylla.
3637 Epidendrum floribundum.
3631 ——— papillosum.
3638 ——— tessellatum.
3666 ——— viridi-purpureum.
3639 Erica florida, *var.* campanulata.
3673 Euphorbia Jacquiniflora.
3706 Eutoca divaricata.
3657 Funckia albo-marginata.
3663 ——— Sieboldiana.
3659 Gesnera fascialis.
3664 ——— tuberosa.
3680 Gladiolus Mortonius.
3660 Govenia Gardneri.
3687 Gongora maculata.
3689 Helianthus mollis.
3696 Hypoxis stellipilis.
3665 Ipomæa Bonariensis.
3685 ——— Platensis.
3675 Ismene Macleana.
3652 Kennedya nigricans.
3699 Leycesteria formosa.
3700 Leonotis nepetæfolia.
3626 Lisianthus Russellianus.

Pl.

3632 Loasa lateritia.
3671 Lobelia Bridgesii.
3650 Lophospermum scandens.
3698 Malva Creeana.
3642 Mammillaria atrata.
3647 ——— floribunda.
3634 ——— Lehmanni.
3646 ——— tenuis.
3704 Marshallia cæspitosa.
3629 Maxillaria aureo-fulva.
3691 Melocactus depressus.
3690 Merendera Caucasica.
3708 Monachanthus fimbriatus.
3705 Oncidium Forbesii.
3697 Passiflora incarnata.
3635 ——— nigelliflora.
3636 ——— Tucumanensis.
3692 Pavonia Schrankii.
3645 Pentstemon diffusus.
3688 ——— glandulosus.
3661 ——— gentianoides.
3703 Phacelia tanacetifolia.
3710 Phalocallis plumbea.
3682 Pleurothallis Grobyi.
3707 Polystachia grandiflora.
3676 Potentilla glabra.
3668 Pyrus arbutifolia.
3653 Rehmannia Chinensis.
3670 Rhododendron albiflorum.
3667 ——— nudiflorum; *var.* scintillans (hybridum).
3672 Solanum campanulatum.
3684 ——— fragrans.
3677 Sophronitis cernua.
3709 ——— grandiflora.
3681 Spathodea pentandra.
3701 Statice puberula.
3702 Trifolium hybridum.
3630 Tweedia versicolor.
3628 Verbena incisa.
3694 ——— teucrioides.
3683 Veronica prostrata, γ. saturei-æfolia.
3686 Zygopetalon maxillare.
3674 ——— Murrayanum.

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Pl.

3654 Aloe, great American, with variegated leaves.
3675 Amancaes, Mr. M'Lean's.
3668 Aronia, Arbutus-leaved.
3678 Arthrostemma, changeable-flowered.
3679 Aspasia, variegated.
3649 Bartonia, golden.
3640 Birthwort, pouch-flowered.
3656 Cattleya, dwarf.
3669 ——— Mrs. Moss's superb.
3693 ——— spotted, Lord Edward Russell's *var.*
3662 Centaury, prostrate.
3651 Cereus, five-winged, somewhat jointed *var.*
3702 Clover, Mule white Trefoil, or tall Dutch.
3644 Colletia, bristling.
3695 Collinsia, variable-leaved.
3648 Cymbidium, lurid-flowered.
3643 Dendrobium, close-flowered.
3655 Diplacus, scarlet-flowered.
3658 Epacris, small-leaved.
3638 Epidendrum, chequer-flowered
3637 ——— many-flowered.
3666 ——— purplish-green.
3631 ——— warty-fruited.
3673 Euphorbia, or Spurge, Jacquinia-flowered.
3706 Eutoca, straggling.
3663 Funckia, Dr. Siebold's.
3657 ——— variegated.
3659 Gesnera, gaping-flowered.
3664 ——— tuberous-rooted.
3680 Gladiolus, Mr. Morton's.
3687 Gongora, spotted.
3660 Govenia, Mr. Gardner's Brazilian.
3639 Heath, drooping, round-headed bell-flowered *var.*
3696 Hypoxis, starry-haired.
3665 Ipomæa, Buenos-Ayres.
3685 ——— the Plata.
3652 Kennedya, dingy-flowered.
3700 Leonotis, Cat-mint leaved.
3699 Leycesteria, handsome.
3626 Lisianthus, Duke of Bedford's.
3632 Loasa, red-flowered.
3671 Lobelia, Mr. Bridges'.

Pl.

3650 Lophospermum, climbing.
3698 Mallow, showy, red-flowered.
3647 Mammillaria, copious-flowering.
3642 ——— dark green.
3634 ——— Lehmann's.
3646 ——— taper.
3704 Marshallia, tufted.
3629 Maxillaria, golden-brown.
3628 Melindres, cut-leaved.
3691 Melocactus, depressed.
3690 Merendera, Caucasian.
3708 Monk-flower, fimbriated.
3684 Nightshade, fragrant South American.
3705 Oncidium, Mr. Forbes'.
3633 Papaw, small citron-fruited.
3636 Passion-flower, large-stipuled.
3635 ——— Nigella-flowered.
3697 ——— yellow-fruited Virginian.
3692 Pavonia, Schrank's.
3661 Pentstemon, Gentian-like.
3688 ——— glandular.
3645 ——— spreading.
3703 Phacelia, Tansy-leaved.
3710 Phalocallis, lead-coloured.
3707 Polystachia, large-flowered.
3682 Pleurothallis, the Groby.
3676 Potentilla, glabrous.
3641 Quinoa, useful.
3653 Rehmannia, Chinese.
3667 Rhododendron, sparkling.
3670 ——— white-flowered.
3672 Solanum, bell-flowered.
3677 Sophronitis, drooping-flowered
3709 ——— large-flowered.
3681 Spathodea, five-stamened.
3683 Speedwell, prostrate, Savory-leaved *var.*
3627 Spine-Cactus, tube-flowered.
3689 Sun-flower, soft-leaved.
3701 Thrift, downy-leaved, Canary.
3702 Trefoil, Mule white; or tall Dutch Clover.
3630 Tweedia, changeable-flowered.
3694 Vervain, Germander-leaved.
3674 Zygopetalon, Mr. Murray's.
3686 ——— Tree-Fern.